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ANNUAL REPORT

OF THE

MEDICAL AND HEALTH DEPARTMENT

FOR

1903.

ANNEXURES.

I. Hospital Statistics, Return of Surgical Operations, &c.

II. Statement showing Plague incidence since 1899.

III. Statement showing monthly plague incidence during 1903.

IV. Statement of work performed by Town Sanitary Inspectors and of Contraventions taken by them. (*Not printed*).

V. Statement of work performed by Sanitary Inspectors in Rural Districts. (*Not printed*).

VI. Dispensary Return.

VII. Reports and extracts from reports of Government Medical Officers as follows:—

(*a*) Report on the Civil Hospital, by Dr. Rouget.

(*b*) ,, ,, Lunatic Asylum, by Dr. Paddle.

(*c*) Extracts from report of Dr. Ménagé on Poudre d'Or Hospital.

(*d*) Extracts from report of Dr. Monty on Flacq Hospital.

(*e*) Extracts from report of Dr. Portal on Mahebourg Hospital.

(*f*) Extracts from report of Dr. Paddle on work done by him as Government Analyst.

I— STATISTICS OF POPULATION.

The population of the Colony has decreased by 1,616 during the year 1903 and this reduction is due to the following factors :—

The number of Immigrants during the year under review has been 5,587 and that of Emigrants 5,780, showing an excess of the latter of 193, while the figures for 1902 were 8,676 and 6,239 respectively, giving an advantage of 2,437 to the Immigrants.

The number of incoming people has therefore been this year 3,089 less than last year.

The number of births registered was 13,611 of which 3,844 occurred among the General Population and 9,767 among the Indian. The figures for 1903 therefore compare favourably with those of 1902 which stood at 3,719 and 9,776 respectively : so that there has been an increase of 125 among the General Population and a decrease of 9 only among the Indian Population.

Unfortunately this year like the preceding one has witnessed the same unsatisfactory fact of the deaths recorded exceeding the births. Indeed, during 1903 there were 15,034 deaths showing an increase of 2,318 over those of the previous year.

The total decrease of 1,616 in the population of the Island is therefore accounted for by the excess of deaths over births and of Emigrants over Immigrants.

The birth-rate which in 1900 was 34.3 per 1000 per annum has since steadily improved, being 36.1 in 1902 and 36.2 in 1903.

I note with regret however that the death-rate has also increased. From 34.0 o[oo. in 1902 it has risen to 39.9 in 1903, i.e. an increase of 5.9.

II—PREVALENCE OF SICKNESS.

The sanitary state cannot be said to have been as satisfactory as in 1902. Judging from the Hospital Statistics as well as those of the Dispensaries, it is evident that there has been an increase of sickness prevalence.

The weight of these statistics is still more enforced when taken in connection with the hospital attendances and mortality on Sugar Estates which show an abnormally high death incidence during the first half of the year especially.

The number of admissions into the different Government Hospitals of the Colony amounted to 20,867, giving an increase of 2,993 over 1902.

The case mortality exclusive of still births was 5.98 o[o against 5.57 for the previous year.

Malarial Fever : In a malaria infected country where a large proportion of the population is ignorant, and, to a great extent, takes no heed of ordinary hygiene or sanitation, it is natural to expect malaria to account for the greater number of admissions into hospital.

The number for the year is high, as 4,833 cases have been treated against 3,387 for 1902, showing an increase of 1,446. At the same time the disease has assumed a more virulent character as the case mortality 1.94 o[o will show when compared with that of 1902 which stood at 1.03 and that of 1901 which was 1.64.

Hypertrophy of spleen : under which heading cases of chronic malaria are entered, account for 492 admissions in 1903, an increase of 35 over the preceding year.

Referring to the Meteorological return kindly supplied by the Director of the Royal Alfred Observatory, it will be seen that the rainfall has been equally distributed throughout the year and that there were no cyclones and consequently no heavy rainfalls at a time. The result was that the pools and puddles formed at the beginning of the year contained water constantly, while they and the rivers were not naturally flushed and cleaned as in years when cyclones and heavy summer rains occur.

In addition, the degree of humidity being great and constant, surface collections of water resulting from the frequent rains did not dry up as in years when it is low.

The natural result was that mosquitoes were fostered by the meteorological conditions of the year in their development, while there were none of the strong winds which during cyclones not only sweep them away but also to a large extent destroy them. Anopheles, the principal factor in spreading malaria, partook of the same advantage, and to this cause may be ascribed the greater prevalence and intensity of the disease.

It is interesting to note that while the low lying localities suffered more especially, the district of Moka again remained comparatively free, notably in the regions where the cleaning of rivers and other measures to combat the spread of malaria have been adopted, carried out and kept up since 1901.

Dysentery : As has been noticed for a long time past, the incidence of this disease goes on *pari passu* almost with that of malaria. Several causes, notably those affecting the water supply, appear to be common in predisposing to and favouring the occurrence of the two diseases.

In 1903, the same observation proved true, for the number admitted into public hospitals rose to 834 i.e. 161 more than during the previous year. It is satisfactory however to notice that the case mortality has been almost stationary as this year it was 12.7 o[o compared with 12.17 o[o, the rate for 1902.

It would also be natural to expect the incidence of hepatic abscess to increase concurrently with dysentery. In 1902, 15 cases were reported while in the past year 23 have come to the notice of the hospital surgeons, but the number of deaths in either year has remained the same, *i e.* 7.

Enteric Fever has been less prevalent in 1903 than in the previous year. The number of cases admitted into hospital was only 15 against 36 in 1902. The case mortality, 25 o[o, remaining almost the same.

In accordance with the Infectious Diseases Ordinance, 81 cases were notified of which 22 died. This number, it will be observed, corresponds with the smaller incidence already noticed from the hospital statistics. In 1902, under the same Ordinance, 157 cases were notified, of which 44 proved fatal.

The high rate of mortality again indicates, in my opinion, that a not inconsiderable number of persons suffering from typhoid escape detection and notification and constitute a standing danger as regards the propagation of the disease and the formation of foci of infection for the future, as their dejecta find their way to manure heaps, cane fields and subsequently to water supplies. The remarks made by me on page 3 of my report of 1902 concerning the atypical course of the disease might be repeated on this occasion.

There is no doubt that a large field of exploration remains open for scientific research as regards the true nature of continued fevers in this Island. It is to be hoped that it will be possible at no distant date for this work to be undertaken in the bacteriological laboratory for which provision has been made this year.

Diphtheria : Only one case, against 7, the year before, was treated in a public hospital. The patient was cured. The total number of cases notified however amounted to 27, an increase of 8 over that of 1902. Five proved fatal. The disease prevailed mostly in the higher regions of Plaines Wilhems District, 9 cases being reported from Curepipe, of which number, 7 occurred in March, 1 in April, 1 in June. In Moka 9 cases occurred at different dates during the year, but in that district, the incidence of the attacks was principally at the beginning of summer i. e. September and October.

The outbreak at Curepipe gave rise to some anxiety at the time but was quickly checked by the usual measures of partial isolation and disinfection and the timely application of anti-diphtheritic serum which once more has proved its value both as a curative and prophylactic.

Of the 27 cases, only 8 were Indians, proving again the relative immunity enjoyed by that section of the Community which forms the bulk of the population of Mauritius. It may be that the privilege is due, as supposed by some, to the habit which that class has of cooking their food inside the huts where they sleep so that the internal surfaces of the buildings are coated with the tarry products of combustion and are unfavourable to the development of the Klebs-Loëffler bacillus, for the immunity if not racial, is certainly not due to the observance of the dictates of hygiene in other respects.

Influenza : The number of admissions for that complaint was 1,055 against 772 in 1903. The case mortality was 2.9 o[o. The figure for the year under review is however inferior to that for 1901 which was 1300, with a mortality of 3.66 o[o.

The increase above the preceding year is no doubt due to the greater number of rainy days, the lower average of temperature and the increased humidity.

The disease which is so protean in its manifestations, cannot but give rise to anxiety, preparing as it does the way to so many other chronic complaints which eventually prove fatal.

Tuberculosis : A slight decrease, 23, over the previous year was noticed in the number of cases admitted which amounted to 1,110. The number of deaths reported to have taken place in Hospital is 251 showing an increase of 35 over 1902.

Within the year under review a Committee of the Council of Government was appointed to enquire into the causes of the prevalence and spread of the disease in Mauritius. There can be no doubt that all efforts tending to check the spread of tuberculosis must be based on the cooperation of the people and that as a first step to enlist their good will, the education of the children and of the less cultured classes is of paramount importance. The posting up in schools of a series of short maxims containing elementary hygiene rules will, it is hoped, prove of value, as a beginning in this direction.

The question of providing special and separate accommodation for this class of patients in hospital has been under consideration and every effort made to isolate, as far as possible, those suffering from the ailment from the rest of the patients.

In the large establishments, special wards have been set aside by the Medical Officers in charge, but the time has come when tuberculosis in hospitals should be looked upon in the same light as the acute infectious diseases for which special measures of isolation must be followed.

The fight against the disease in this Colony is rendered still more arduous by the ignorance and fatalistic notions of a considerable part of the population and above all by the increasing poverty of a large proportion of the inhabitants who consequently are not in a position to procure a substantial dietary, but are besides compelled to live in insanitary dwellings where the evils of promiscuity are to be added to existing ones. These conditions, deplorable as they are, are aggravated by a tendency to the excessive consumption of alcoholic drinks.

Pneumonia : 443 cases came under observation in the year, i. e. 29 more than 1902. There is a reason apparently for congratulation on the method of treatment adopted as the death rate which in 1901 was 33. 3 has since steadily decreased, reaching 31.6% in 1902 and 28. 3% in 1903.

Nephritis : The number of cases admitted was 338 against 333 in 1902 with a mortality of 16.9 %.

Beri-Beri : 100 cases of that complaint have been treated during the year, giving an increase of 90 over that of last year The deaths have been 33.

It must be observed that all these cases were treated at the Civil Hospital and that all the patients, with one exception, were Chinese. Fuller details on the subject will be found in Dr Rouget's interesting and instructive report hereto annexed. The fact that the sufferers were mostly immigrants recently arrived from China, the natural reticence of these people and their ignorance, complicated by the difficulty of understanding the language used by them, threw almost insuperable obstacles in the way of obtaining information respecting the ætiology of the outbreak, while the prejudice of their friends regarding necropsies, prevented pathological observations and researches from being made. The epidemic as will be seen later did not spread to the resident population.

Measles : 41 cases of measles were registered during the year and five deaths reported due to the disease. The epidemic which had prevailed during 1902, asumed a milder type at the beginning of the year and eventually subsided, all the cases were reported in the early months.

Leprosy : There were 15 patients suffering from that complaint who sought relief in the various hospitals. Of these, 6 presented the tubercular type and 9 the anæsthetic. The return kindly supplied by the Poor-Law Commissioner shows that 47 admissions took place at the Hospice St. Lazare during the year under review, that 146 patients, 114 males and 32 females, were under treatment for the complaint in the Institution and that 23 deaths took place. The numbers show a decrease over those of the previous year.

Syphilis : A regrettable increase is noticed in the number of admissisons on that head. The spread of that complaint among the population and the occurrence of cases among juvenile subjects call for special mention and an expression of anxiety for the future.

Whatever results scientists may obtain from the recent discoveries of Metchnikoff and Roux for the prophylaxis of that disease, it is to be hoped that this means will not have to be resorted to in order to bring a decrease in a complaint which can be checked by moral education and the enforcement of sound principles.

Anæmia: The admissions under this heading have increased from 409 in 1902 to 655 in the year under review. This rise in the number of patients suffering from this complaint was quite to be expected in presence of the prevalence of fever and dysentery principally, but the possibility of a number of cases being due to ankylostomiasis must not be lost sight of, and the reference to the subject in Dr Ménagé's report, of which extracts are annexed, should engage the constant attention of the District Medical Officers and Sanitary Authorities. I have already brought the subject under notice in some of my previous half yearly reports as Medical Inspector; the disease so far appears limited to the North Eastern districts of the Island.

Ulcers: A considerable increase has taken place in the cases treated for this complaint in 1903. The figure which stood at 327 admissions in 1902, has risen to 615 in 1903. A concurrent increase of cases of ulcers was also noticed in the Estate Hospitals towards the end of the year. Though a great number may have been due to a variety of debilitating and ordinary well-known causes, however the existence of a specific agent was suspected and the diagnosis of tropical sloughing phagedena was shortly after the occurrence made in a large number of cases. The disease which was at first reported principally from the lowlying Districts of Rivière du Rempart, Flacq and Black River, was not long in making its appearance in the other regions along the coast of the Island. Microscopical and bacteriological investigations were at once undertaken at the Civil Hospital, and the bacillus which at first was thought to be that of Vincent, was shortly afterwards identified by Mr. Maya to be that of Crendiropoulo. This disease existed in Mauritius in 1868 but was never so extensively met with. It has caused a great deal of suffering and loss of labour, but fortunately led to no fatal issue. The matter will be more especially dealt with in the report for the year during which the prevalence and course of the disease have been more closely followed.

Plague: The number of cases in the Public Hospitals was 95 against 32 in the previous year. This higher number corresponds with the occurrence of a much more severe and widespread epidemic both in town and in certain districts.

The plague patients were as usual isolated as soon as the first symptoms or suspicion of the nature of the ailment occurred and the sick were, whenever their state permitted, transported to the special lazarets. In no case was plague infection contracted in the hospitals.

The epidemic will be referred to at greater length under Chapter V, when treating of the recurrence of diseases.

Statement I will supply full details of all the other diseases which have been treated at the Government Hospitals as well as of the operations which have been carried out.

III—RELATIVE MORTALITY IN THE DIFFERENT SEASONS.

Malaria as usual prevailed more in the 1st. and 2nd. quarters of the year. From January, the admissions rose steadily to March when a turning point was reached; the total for April being slightly inferior to that for February. The decrease was then well marked until the minimum was observed in September, from which time it again gradually rose to the end of the year.

During 1903 there was an increase in the cases of remittent and pernicious malaria which accounts for the higher death rate.

Dysentery :— This year a return to what usually holds was noticed, the disease presenting a similar type of incidence to Malaria.

Tuberculosis proved almost evenly distributed throughout the year although the latter half witnessed a slight rise.

Bronchitis was at its height in February and diminished steadily thereafter.

Influenza prevailed during the 2nd. and 3rd. quarters while *Pneumonia* was more commonly met with during the 1st. and 3rd. quarters.

On the whole, pulmonary diseases were almost evenly distributed throughout the year and the only way towards explaining the fact is the average lower temperature and evenly spread rainfall.

Plague as usual prevailed during the 2nd. half of the year as will be seen later.

IV—METEOROLOGICAL CONDITIONS OF THE SEASONS AND THEIR PROBABLE EFFECTS WITH REGARD TO SICKNESS.

Seldom have meteorological conditions so evidently demonstrated their influence upon the health of the people as during the year under review. The equally distributed rainfall has kept up the pools once formed and favoured, as already pointed out, the development of mosquitoes and the spread of malaria while the lower temperature and increased humidity have proved their influence in the higher number of people who have suffered from lung troubles.

Though once more no correlation could be traced between temperature and rainfall on the one hand and the development of the plague bacillus on the other, the meteorological conditions may perhaps be said to have had a certain influence indirectly on the prevalence of the disease, as the absence of heavy rains diminished the chances for the natural destruction of the younger rodents, while the damp and cold winter drove these animals into dwellings and in proximity to man with the result already pointed out.

V.—RECURRENCE OF PARTICULAR DISEASES DURING 1903.

Under the head of recurrent diseases may be classed :— malaria, dysentery, influenza and plague on man, and surra on animals.

These diseases have, with the exception of plague and surra already received full attention.

Plague :—The epidemic visitation of this disease has been more severe this year than in any since the first outbreak in 1899 as may be seen from the following table : —

Years	No of cases.	No of deaths.	Death-rate o/o.
1899	1,416	1,117	78.9
1900	796	593	74.5
1901	1,093	805	73.6
1902	506	386	76.3
1903	1,395	1,035	74.2

The epidemic of 1902 may be said to have terminated in March 1903. Sporadic cases then occurred during the succeeding three months, and the disease again became prevalent in July. The epidemic was at its height in October, when every district in the Island was attacked. A slight decline in the visitation took place in November and December, but a marked fall only occurred towards the middle of January 1904, and the scourge almost completely disappeared rather suddenly early in the following month.

The incidence of plague in 1903 after all that has been done to combat its occurrence and spread has been very disappointing, and has once more indicated, in this Colony at any rate, that the epidemic manifestations of the disease depend entirely on its propagation by rats. The number of these rodents found in town was considerable again in 1903. It must be observed that when cyclones and heavy rains occur in the early months of the year, an extensive destruction of these animals usually takes place. In 1903 neither of these climatic factors occurred to oppose their almost unlimited reproduction. On the other hand, the vermin find convenient abodes in the improperly constructed, badly repaired and even ruinous buildings in which many of the inhabitants reside, and this objectionable promiscuity between man and the lower animals favoured by the fatalistic or apathetic notions which exist unfortunately not exclusively among the uneducated classes, led to fatal results as soon as the plague epizootic raged among the rats. It is fortunate that taught by bitter experience, a great many persons applied for disinfection while others vacated their residences as soon as rats were observed to die on the premises, the consequences would otherwise have been still more serious.

The beneficial effects of disinfection and sanitary precautions were evident on very numerous occasions, and were illustrated among other occurrences when rats affected with plague found their way in the compounds of the Civil Hospital and of the Lunatic Asylum where none of the residents contracted the disease. These measures cannot however be fully trusted in the case of insanitary or improperly constructed buildings, where reinfection by rats takes place at short intervals, and evacuation then remains the only safe if not always practicable means of escaping the disease.

Plague was introduced in all the Districts at some time or other during the last epidemic, but except in Port Louis and in the townships of Rose Hill and Beau Bassin, which afford such favorable opportunities for its diffusion and the retention of germs, the disease was successfully combated everywhere though moderately severe outbreaks occurred at Montagne Blanche (Moka), New Grove (Grand Port) and on three sugar estates, two in Savanne and one in Pamplemousses.

The township of Curepipe, the populous villages of Mahebourg, Souillac, Poudre d'Or and Flacq and many other places in which the disease was introduced last year or which had been attacked in previous epidemics, were happily again protected against a fresh epidemic.

It is to be feared however that this Colony will have, for an unkown period, to face annually the recurrence of the scourge unless some means is found of exterminating rats in dwellings or that the latter are, by suitable measures, made rat proof.

The two lazarets of Port Louis and those of Plaines Wilhems, Rivière du Rempart, Flacq and Grand Port received 566 patients, many unfortunately at a late stage of their illness and past recovery ; 279 died and 287 were discharged cured. With the exception of a washerman of the Plaines Wilhems lazaret, who was attacked by and recovered from the disease, which it is supposed, he may have contracted from some contaminated clothes, though this is not quite clear, not a single case of infection occurred among the staff of these institutions or among the relatives of the patients who, in accordance with the regulations, were allowed to attend them in hospitals though a large number of cases of plague pneumonia were under treatment in the wards.

The risks of transmission of plague from man to man under ordinary conditions of cleanliness and sufficient ventilation has once more been proved to be almost nil. A few cases of plague occurred among the staff of laborers employed in disinfecting premises, but investigations in each of the cases have shown that the men so affected were at the time living in infected localities. Some of the special constables employed in watching over contaminated huts or rooms from which the sick had been removed, and who, contrary to orders, probably went to sleep on the premises, contracted the disease however, and proved also once more the danger arising from plague infection at night especially, whatever may then and there be the immediate means of contamination. This evidence was clearly also manifest in the large number of persons who apparently caught the disease while attending wakes held on infected premises. This practice is unfortunatey a deeply rooted one in the Island.

These different questions and that of treatment, &c., will be fully dealt with in the report which Dr Momplé, who was Plague Authority last year, is preparing on the course of the epidemic.

Annexure A shows in a tabular form the annual incidence of plague during the epidemic and latent periods of its occurrence since 1899, while Annexure B shows at a glance its incidence in every month in each of the Districts of the Colony during the past year.

Surra will be discussed in Chapter VI.

VI—GENERAL SANITARY CONDITION OF THE COLONY.

The conclusion arrived at from the preceding facts is that the sanitary condition of the Island during 1903 has been unsatisfactory.

Malaria, influenza, dysentery, and, worst of all, plague, have been on the increase ; but fortunately few cases only of measles occurred while diphtheria and typhoid showed a marked decrease.

The water supply has remained exactly the same during the past year. Ordinance No. 35 of 1902 was put into force on July 1st 1903, and the management and supervision of the water works and supplies, except in Port Louis and Plaines Wilhems, have accordingly been entrusted to the District Boards and the Surveyor General's Department. Time enough has not elapsed for the results of this change to show themselves.

The Registrar General has had the kindness to supply me with the following tabular statement which gives the population, number of births, birth-rate, deaths and death-rate in each of the Districts of the Colony. It will be seen that the birth-rate is greatest for Rivière du Rempart and Flacq whose population is mainly Indian ;—

District.	Population on 1.1.03.	Births.	Deaths.	Birth-rate ‰	Death-rate ‰
Port Louis	52573	1557	3178	29.6	60.4
Pamplemousses	36689	1217	1645	31.4	42.5
Riv. du Rempart	27958	1129	945	40.3	33.8
Flacq	56445	2206	2154	39.0	38.1
Grand Port	50691	1949	2207	38.4	43.5
Savanne	35956	1282	1143	35.6	31.7
Plaines Wilhems	63985	2446	2138	38.2	33.4
Moka	36328	1384	991	38.0	27.2
Black River	13635	441	633	32.3	46.4
Total ...	376,260	13,611	15,034	36.1	39.9

Annexures IV and V give detailed information respecting the various contraventions taken as well as the visits paid by the Sanitary Inspectors whose work has been satisfactory, considering the strain they were put to especially in the country through plague and surra.

The number of visits paid by the town Sanitary Inspectors amounts to 17,107 to private premises, 287 to common lodging houses, 2,025 to shops, markets, sale of meats, &c. They were called 1,357 times to perform special duties, carry out enquiries, attend cremations, exhumations and at the morgue.

The Government Establishments, public and gratuitous latrines, cemeteries, noxious factories, bakehouses, water courses, camps, were visited 6,014 times. The scavengering service was controlled 1,173 times and 2,286 visits were paid to stables and cowsheds. It will be noticed that there has been a large increase in the latter figure which stood at 1,001 in 1902. The difference is brought about by the application of the Surra Regulations which were passed in March 1903.

Among the multifarious duties incumbent on the sectional Officers in town, it must be borne in mind that they have to attend Court about once a week, to be on office duty i. e. available for all cases of emergency three hours daily, and to perform duty in quarantine either afloat or at Flat Island or Cannoniers' Point Stations, when required.

The number of Court attendances was 392 in 1903, while quarantine duty afloat or at the Stations accounted for 39 days' work of that staff.

On Febuary 3rd of the year Dr Keisler was gazetted Additional Assistant Sanitary Warden and put in charge of the inspections which had, during the previous year, fallen to the lot of Inspector Hanning.

The work done by this Medical Officer has been most satisfactory and has been productive of great amelioration in the houses occupied by the lower clases and especially in the lodging houses in which insanitary conditions become more or less prevalent and the dictates of hygiene more or less ignored as soon as careful supervision ceases.

The number of premises visited by him is 1,405 and the total number of premises revisited is 2,056.

1,230 orders were served, of which 459 were complied with, 113 gave rise to prosecution, and 658 were in abeyance through various reasons. The total number of fines was Rs 1,005.60.

In the great majority of cases merely nominal fines were inflicted as the object which had given rise to prosecution had been attained between the time of the filing in of the complaint and the hearing of the case ; the Department, in taking action, aiming only at securing the carrying out of what had been ordered.

A still better result would have been obtained were it not for the utter impossibility on the part of a not inconsiderable number of house-owners to carry out in a satisfactory manner the requirements indicated or even to attempt them through want of means.

The question of the housing of the poor has received the attention of a great number of the European Municipalities and in not a few cases these corporations in a measure have solved the problem. Mention of what holds in London, Glasgow, Edinburgh and most of the working centres of England is here made with the hope that the matter may be taken up by the responsible authorities.

The difficulties which lie in the way are not nearly so numerous as in the above-named places while the affording proper lodgings to the poor at a cheap rate is of paramount importance, as its adoption would result in changing the unenviable reputation which Port Louis has of being one of the most unhealthy towns in the world and would have a direct influence in diminishing the occurrence of plague and helping towards its final eradication.

Unwholesome food, defective pipes and drains, the night soil service, the proper keeping up of premises &c., gave rise to 4,960 contraventions. Of these either immediately or after conviction before Court—4,699 were remedied and 261 were still pending on December 31st. The total amount of fines imposed for these contraventions was Rs 1,996.35.

The Swine Destruction Ordinance was enforced since September last year and 79 pigs were killed in Port Louis. In all cases where the owner was found, contravention was besides established and the matter referred to Court. There is no doubt that the promulgation of the Ordinance had a salutary effect, for, in the Eastern Suburb which was so badly infested by them formerly, a smaller number of the animals is to be seen wandering.

The Scavengering Service of Port Louis for the year was carried out by the Municipality. A number of contraventions were reported to that Institution. The service has not been as satisfactory as should have been expected, but in presence of surra and scarcity of labour the deficiency may, in a measure, be accounted for.

The number of nuisances referred for abatement to the Public Works Departement or the Municipality was 822, of which 273 were in abeyance on December 31st.

The Sanitary bands of Mahebourg, Souillac and Port Louis have done good work. They attended, as in the past, to the cleansing of drains, the removal of sea weeds from the shore, the cleaning of waste lands, and streets, where such works are incumbent upon this Departement. The Mahebourg band has been increased by 6 for several months during 1903.

There has been no change effected in the quality of water supplied to the inhabitants of Port Louis. The water, after rains, may be said to be dilute sewage. It is matter for wonder, under the circumstances, not to come across more cases of water-borne diseases among the residents of our principal town.

The hope expressed last year that the drainage system be extended to other parts of the town has been favourably entertained by Government, and, in accordance with a vote of the Council, works were begun at the end of the year to include the Line Barracks and adjacent locality within the drainage area.

A statement of all the Sanitary Contraventions; collections, &c., in the rural districts for the year will be found in Annexure V.

3,783 " notices " were served of which 3,540 were complied with, while 230 gave rise to prosecution and 13 were in abeyance. The fines imposed amounted to Rs 821.59.

The various Sanitary Contraventions numbered 1,379 and led to the prosecution of 1,189 responsible parties ; Rs 3,570.35 represent the fines imposed in connection with these. 190 contravenants were warned being first offenders.

The collections, market and cemetery, amounted to Rs 20,527.70.

On the whole, the Sugar Estate Camps were reported in a satisfactory condition but unfortunately two Districts have given several instances of the opposite, some managers were prosecuted and fined for not keeping their camps clean and allowing them to be overgrown. It may even besides not be out of place to note here that in a few instances huts have been reported defective and in ruinous condition. At the end of the year, a good many defects had been remedied and it is to be hoped that there will be no occasion for making such complaints in future.

Noxious factories worked evenly and gave rise to little or no trouble.

15 contraventions for pollution of river were established, of which 3 were committed by Sugar Estates. It is not to be inferred however that the latter figure represents all the cases in which Sugar Estates were responsible for the offence. Establishing the contraventions satisfactorily is fraught with so many difficulties that a great number of cases escaped the law as convictions could not be secured.

With respect to the above remark, I may point out that according to law, Sugar factories are bound to return to the river the water thay have drawn from it to work the vacuum pans and triple effects. No one can deny that after use these waters are returned to the streams still hot, and contain a certain amount of sugar. Decomposition of organic matter giving rise to a greater or less nuisance according to the volume of the water in the river, invariably results. The difficulty of satisfactorily establishing a pollution by a sugar estate, especially when it occurs within the range of the legal pollution above referred to is evident.

The latrine and scavengering services have very much been interfered with by the epizootic of surra. That disease which has already been referred to last year continued to rage through 1903. In Port Louis, it was deemed necessary to resort to the Railways to carry out part of the night soil service. In the country districts hand traction was resorted to. Considering the difficulties, it is satisfactory to note that no breakdown has actually taken place in these services and that they could be tided over in most cases after comparatively short delays.

During the course of the year, the disease was investigated on the lines advocated by Dr. Edington and subsequently fuller experiments were tried to find out the value of a prophylactic advocated by Mr. Veterinary Surgeon Galloway.

The experiments embodying the suggestion of the former were entrusted to the late Mr. Deixonne and to Mr. Maya. It consisted in introducing certain quantities of virulent blood into the circulation of healthy bullocks. Two of the bullocks experimented upon died vithin a few days with all the symptoms of acute surra. The amount of blood they had received was high. 200 c.c. The two others which received smaller quantities showed trypanosomata in their blood for a short period and after a few weeks of ill health recovered their usual appearances and presented no microscopical sign of the disease. They are now living and giving the usual amount of work expected of healthy bovines.

The second series of experiments were carried out as stated to investigate the value claimed by Mr. Galloway for his method of prophylaxis. Four bullocks were subjected to inoculation with that Veterinary Surgeon's mixture. The preparation proved neither prophylactic nor curative. But nevertheless the bullocks continued in good condition, and, after having been allowed to rest for three or four months after the beginning of the experiments, were set to work. They are all living and in good condition of health and work. One of the animals, used as control in the first series of experiments, which had contracted the disease naturally and appeared to be wasting and unfit for work, was killed in order to ascertain how long the blood of a diseased animal remained infectious after death. Inoculation of its blood taken immediately before and at various intervals after death from the peripheral circulation and internal organs proved negative, indicating that its state of chronic ill health was not however a proof of an infectious state as regards surra.

The two classes of experiments, although they have proved of no value with respect to the discovery of either a prophylactic or a curative agent, have nevertheless been instructive in pointing out how long the disease may remain latent and the protracted time during which bullocks remain infectious besides confirming the fact that bovines affected with surra do in a large proportion and under favourable conditions, naturally recover from the disease and are then able to render good service as draught animals.

A more detailed account of these experiments will be found in my report of 5.10.03—which will be completed after the result of the next inoculative experiment to ascertain if these animals are still free from disease, will have been obtained.

VII— VACCINATION.

The number of vaccinations performed by Government Vaccinators amounted to 11,599 during the year. Only 54 children were declared unsusceptible to successful vaccination.

On comparing the first named figure with the number of births, 13,611, and taking into account the infantile mortality, it will be seen that few children escape vaccination especially if it be borne in mind that a good many are vaccinated by private practitioners. The result is gratifying.

The glycerinated lymph has continued to give satisfactory results except the supply which reached Mauritius on June 22nd. which for some unaccountable reasons proved inferior.

VIII—PUBLIC HOSPITALS AND DISPENSARIES.

The number of Hospitals has remained unchanged during the year 1903.

The following statement gives the number of patients adtmitted, treated, who died and who were discharged in each of them.

Hospitals.	Remaining on 1. 1.03.	Admitted.	Treated.	Died.	Discharged.
Civil Hospital ...	175	6062	6237	520	6095
Port Louis Prisons ...	16	1121	1137	11	1130
Long Mountain ...	10	761	771	38	752
Poudre d'Or ...	20	1194	1214	48	1187
Flacq ...	49	1966	2015	105	1983
Mahebourg ...	23	1523	2323	133	2295
Savanne ...	33	2300	1556	92	1516
Barkly Asylum .	106	3635	3741	246	3640
Lunatic Asylum ...	31	481	512	30	487
Beau Bassin Prisons ...	8	1009	1017	23	1004
Reformatory ...	...	104	104	...	101
Moka ...	18	711	729	31	722
Total... ...	489	20,867	21,356	1,277	20,912

Among the ameliorations which have been carried out during the year the following may be mentioned :

(a) The erection of a pavilion at Rivière du Rempart Hospital where convalescent patients who can leave beds take their meals and to which they resort during day time.

(b) The construction of an operation room at Long Mountain and Flacq Hospitals. This latter work was not yet completed at the end of the year.

The only change which took place in connection with the Dispensaries during the year was the transfer of Grande Rivière Noire Dispensary to Case Noyale, an out-of-the-way and fever-stricken locality, more populous than the former.

38,420 different pauper patients applied at the various Dispensaries of this Colony for medical care and comfort. The total number of cases treated amounted to 50,198 including 254 patients of the Reformatory who received outdoor treatment.

Annexure VI shows the number of cases treated at each of these Institutions.

IX—MISCELLANEOUS.

Quarantine: Flat Island Station was not occupied at all during the year 1903.

Cannoniers' Point was twice placed in quarantine for a few days in October and December for disinfection purposes and to serve as temporary depot for the coolies whom it was not considered desirable to locate at the Port Louis Immigration Depot on account of the then prevalence of plague in town.

The Health Officer boarded 276 vessels, of which 138 were placed in temporary quarantine for the purpose of disinfection in accordance with law.

33 vessels refused pratique and did not enter the harbour through their having carried out their operations at the inner quarantine anchorage or in the outer roads. The remainder were admitted after having been detained for a period ranging from a few hours to two days, the latter delay in the case of steamers with several hundreds of Chinese Immigrants on board.

A liberal change took place in the quarantine system of the Colony by the putting into force on October 1st. of Ordinances Nos. 24 of 1901 and 17 of 1903.

MEDICO-LEGAL AND ANALYTICAL WORK :—Extracts from Dr. Paddle's report on the work done by him as Government Analyst will be found in annexure VII*f*. It affords interesting reading.

The Government Analyst has had this year to carry out 26 examinations more than in 1902, 12 of which are still in abeyance.

The gradual increase in investigations concerning articles of food, &c., which has been noticed for the past few years, and the immediate advisability of checking the adulteration of alimentary products, beverages, drugs, &c., once more call for the establishment of a laboratory where bacteriological experiments could also be carried out. The need for it is rendered still more evident if the amount of work in the small laboratory at the Civil Hospital, under the charge of Mr Maya, the pharmacist, is borne in mind. Calls are constantly being made by Medical Practitioners on the means at disposal to enable the elucidation of many complicated and doubtful cases.

It is expected that the scheme adopted by the Council and approved by the Secretary of State for the creation of a chemical and bacteriological laboratory will soon be carried out to the great advantage of the Colony.

Medical Stores : The work in this branch of the Department which has been getting heavier every year has again increased on account of the numerous demands and requirements of the various Institutions which are supplied from the stores and which manifested a praiseworthy desire of keeping apace with the progress of therapeutics and surgery.

X—DEPARTMENTAL.

As in recent years, the work of this Department was carried on under specially heavy strain during 1903. The outbreaks of surra and plague taxed the resources and energy of the Sanitary staff to the utmost, but it is my pleasant duty to have to record that both at Head Quarters and in the Districts, the officers, clerks and employés of all ranks as a whole showed commendable activity, devotion and intelligence in the discharge of their duties.

H. LORANS,
M. B., D. P. H., Edin,

3rd May, 1904.

Acting Director,
Medical & Health Department.

ANNEXURE I.

RETURN OF THE STATISTICS OF POPULATION FOR THE YEAR 1903.

	Europeans, Whites Mixed and Coloured.	Africans.	Indians.	Chinese.	Total.
Number of inhabitants on 31.12.02.	106,848	432	263,971	5,009	376,260
„ Births during the year 1903.	3,844	...	9,767	...	13,611 *
„ Deaths „ „ 1903.	4,330	. .	10,704	..	15,034 *
„ Immigrants „ 1903.	1,698	...	1,996	1,893	5,587
„ Emigrants „ 1903.	1,634	...	2,260	1,886	5,780
Number of inhabitants on 31.12.03.	106,426	432	262,770	5,016	374,644
Increase or	...	...	...	7	......
Decrease	422	...	1,201	...	1,616

* Africans and Chinese are included in the " General Population."

METEOROLOGICAL RETURN FOR THE YEAR 1903.

	TEMPERATURE.						RAINFALL		WINDS.		REMARKS.
	Solar Maximum.	Minimum on Grass.	Shade Maximum.	Shade Minimum.	Range.	Mean.	Amount in Inches.	Degree of Humidity.	General Direction.	Average Force.	
										Miles.	
January ...	160.0	62.8	89.0	66.6	22.4	78.9	9.260	80.4	E. b. S.	8.4	Relatively to the normal, the temperature fell steadily from June to December, in the former month it was 1°. 1 above, and in the latter, 2°. 0 below, the average.
February ...	154.4	63.5	87.8	68.8	19.0	78.9	6.000	82.1	E. b. S.	7.5	
March ...	155.5	65.6	87.6	70.8	16.8	78.8	7.490	82.5	East	10.2	
April ...	147.5	54.6	84.6	62.8	21.8	75.5	6.180	82.5	E. S. E.	10.2	
May ...	145.2	49.4	81.8	58.5	23.3	72.2	0.940	75.7	E. S. E.	9.2	
June ...	142.2	48.2	79.6	56.5	23.1	70.0	1.985	75.0	E. S. E.	10.3	
July ...	135.5	47.8	79.4	55.1	24.3	68.3	1.515	71.0	E. S. E.	10.7	
August ...	141.1	49.0	78.7	56.3	22.4	68.5	6.770	70.5	E. S. E.	12.5	
September ...	143.7	45.3	80.5	55.4	25.1	68.4	1.665	69.5	E. S. E.	12.7	
October ...	147.2	48.4	82.0	57.2	24.8	70.3	1.195	69.4	E. S. E.	12.1	
November ...	152.3	54.5	88.4	60.1	28.3	73.6	0.965	66.0	E. b. S.	10.4	
December ...	153.8	60.8	88.2	65.4	22.8	75.8	2.740	71.8	E. b. S.	11.1	
For the year ...	160.0	45.3	89.0	55.1	33.9	73.3	41.705	74.7	E. b. S.	10.4	

RETURN OF DISEASES AND DEATHS IN 1903.

Diseases.	Remaining at end of 1902.	Yearly Total.		Total Cases Treated.	Remaining at end of 1903.	Remarks.
		Admissions.	Deaths.			
GENERAL DISEASES.						
Small Pox	...	...	...	...	...	
Measles	1	1	...	2	...	
Typhus	...	...	...	...	...	
Dengue	...	...	...	...	...	
Cholera	...	...	...	...	...	
Yellow Fever	...	...	...	...	...	
Beriberi	6	94	33	100	3	
Yaws	...	..	...	...	..	
Influenza	12	1,055	31	1,067	3	
Diphtheria	...	1	...	1	...	
Febricula	...	...	...	...	..	
Enteric Fever	1	15	4	16	3	
Dysentery	25	834	109	859	12	
Plague	1	95	28	96	...	
Malarial Fever						
(a) Intermittent Quotidian	17	2,906	40	2,923	22	
Tertian	...	173	...	173	...	
Quartan	...	75	8	75	2	
Irregular	7	317	8	324	7	
Type undiagnosed	21	1,157	...	1,178	7	
(b) Remittent	...	135	23	135	5	
(c) Pernicious	...	25	15	25	...	
Erysipelas	6	52	10	58	2	
Pyæmia	...	3	3	3	...	
Septicæmia	...	14	14	14	....	
Tetanus	1	9	9	10	...	
Tubercle	39	1,110	251	1,149	39	
Gonorrhœa	5	197	...	202	2	
Hydrophobia	...	...	...	...	....	
Carried over	142	8,268	586	8,410	107	

RETURN OF DISEASES AND DEATHS IN 1903.

	Diseases.		Remaining at end of 1902.	Yearly Total.		Total Cases Treated.	Remaining at end of 1903.	Remarks.
				Admissions.	Deaths.			
	Brought forward	..	142	8,268	586	8,410	107	
GENERAL DISEASES.	Scurvy	...	1	3	...	4	...	
	Parotitis	...	...	3	...	3	...	
	Pertussis	..	...	...	...	...	...	
	Rheumatic Fever	...	1	23	...	24	...	
	Rheumatism	...	16	505	1	521	11	
	Leprosy :							
	(a) Tubercular	...	...	6	...	6	...	
	(b) Anæsthetic	...	...	9	...	9	...	
	Syphilis :							
	(a) Inherited	...	...	8	1	8	...	
	(b) Primary	...	4	110	...	114	3	
	(c) Secundary	...	5	173	2	178	8	
	(d) Tertiary	...	4	77	4	81	5	
	Alcoholism	...	...	15	...	15	1	
	Delirium Tremens	...	...	5	...	5	...	
	Anœmia	...	17	655	18	672	17	
	Debility	...	27	977	144	1004	17	
	Diabetes Mellitus	...	2	26	...	28	1	
	New Growth :							
	(a) Non Malignant	...	...	42	...	42	...	
	(b) Malignant	...	3	64	20	67	...	
	Varicella	...	...	25	...	25	1	
	Starvation	...	...	2	1	2	...	
	Old Age	...	...	2	...	2	1	
	Rickets	...	...	1	...	1	...	
	Other Diseases	...	...	42	...	42	1	
	Carried over	...	222	11,041	777	11,263	173	

RETURN OF DISEASES AND DEATHS IN 1903.

			Diseases.	Remaining at end of 1902.	Yearly Total.		Total Cases Treated.	Remaining at end of 1903.	Remarks.
					Ad-missions.	Deaths.			
			Brought forward ...	222	11,041	777	11,263	173	
LOCAL DISEASES	NERVOUS SYSTEM	Section 1	Neuritis ...	...	8	1	8	...	
			Meningitis ...	2	23	11	25	1	
			Myelitis ...	...	13	3	13	...	
			Hydrocephalus ...	...	1	1	1	...	
			Encephalitis ...	...	1	1	1	...	
			Congestion of Brain ...	1	3	1	4	...	
			Cerebral Hœmorrhage ...	...	20	10	20	...	
		Section 2	Paralysis ..	6	48	1	54	3	
			Epilepsy ...	6	87	4	93	4	
			Chorea ...	...	6	...	6	...	
			Neuralgia ...	...	113	...	113	...	
			Hysteria ...	...	21	...	21	2	
		Section 3	Idiocy ...	...	9	...	9	1	
			Mania ...	...	16	...	16	...	
			Melancholia ...	...	4	...	4	...	
			Dementia ...	...	4	1	4	..	
			Delusional Insanity ...	...	3	...	3	...	
			Neurasthenia ...	...	3	...	3	...	
			Vertigo ...	...	1	...	1	...	
			Softening of Brain ...	...	4	3	4	...	
			Paresia ...	...	2	...	2	...	
			Other Diseases ...	1	47	7	48	2	
	Diseases of the Eye :—								
			Conjunctivitis ...	1	59	...	60	1	
			Keratitis ...	2	42	...	44	2	
			Iritis ...	2	17	...	19	1	
			Retinitis ...	...	2	...	2	...	
			Cataract ...	3	82	...	85	5	
			Ophthalmia Tarsi ...	2	31	...	33	1	
			Total Carried over. ...	248	11,711	821	11,959	196	

RETURN OF DISEASES AND DEATHS IN 1903.

LOCAL DISEASES.

Diseases.	Remaining at end of 1902.	Yearly Total		Total Cases Treated.	Remaining at end of 1903.	Remarks.
		Admissions.	Deaths.			
Brought forward	248	11,711	821	11,959	196	
Staphyloma ...	...	5	...	5	...	
Glaucoma ...	...	1	...	1	...	
Panophthalmitis ...	...	4	...	4	...	
Lacrymal Abcess ...	...	1	...	1	...	
Foreign body in eye ...	...	1	...	1	...	
Amaurosis ...	...	1	...	1	...	
Other Diseases ...	1	22	...	23	1	
Diseases of the ear						
Otitis ...	1	16	...	17	...	
Abcess ...	...	6	...	6	...	
Other Diseases ...	...	14	...	14	...	
Diseases of the Nose						
Epistaxis ...	...	1	...	1	....	
Rhinitis	...	4	...	4	....	
Inflammation of of accessory sinuses ...	...	4	...	4	1	
Polypus nasi ...	...	2	...	2	....	
Circulatory System						
Pericarditis ...	...	4	4	4	....	
Hypertrophia Cordis ...	...	10	2	10	....	
Valvular disease ...	10	226	48	236	7	
Aneurism ...	...	4	2	4	....	
Arterio Sclerosis ...	...	2	...	2	....	
Arrythmia Cordis ...	...	1	....	1	....	
Fatty degeneration of heart ...	...	1	1	1	....	
Other Diseases ..	...	15	1	15	....	
Carried over ...	260	12,056	879	12,316	205	

RETURN OF DISEASES AND DEATHS IN 1903.

	Diseases.	Remaining at end of 1902.	Yearly Total.		Total Cases Treated.	Remaining at end of 1903.	Remarks.
			Admissions.	Deaths.			
	Brought forward	260	12,056	879	12,316	205	
Local Diseases.	Respiratory System						
	Asthma ...	6	150	1	156	2	
	Laryngitis ..	...	10	2	10	1	
	Bronchitis ...	21	838	17	859	12	
	Pneumonia ...	13	443	129	456	3	
	Pleurisy ...	1	30	1	31	1	
	Empyœma ...	...	2	1	2	...	
	Hœmothorax ...	...	1	...	1	...	
	Hœmoptysis ...	...	6	...	6	...	
	Bronchiectasis ..	...	2	...	2	...	
	Gangrene of Lungs ...	...	3	3	3	...	
	Other Diseases ..	...	9	5	9	...	
Local Diseases.	Digestive System						
	Stomatitis ..	1	29	...	30	...	
	Tonsillitis ..	...	37	...	37	1	
	Gastritis ...	3	128	2	131	3	
	Ulcus Ventriculi ...	...	1	...	1	...	
	Enteritis ...	5	179	27	184	1	
	Appendicitis ...	...	2	1	2	...	
	Hernia ...	1	37	...	38	...	
	Hœmorrhoids ...	...	73	...	73	2	
	Fistula in Ano ...	1	21	...	22	...	
	Hepatitis ...	1	60	1	61	..	
	Cirrhosis of Liver ...	3	50	16	53	1	
	Suppuration of Liver ...	1	23	7	24	3	
	Biliary Calculus ..	...	7	...	7	...	
	Peritonitis	...	14	12	14	...	
	Diarrhœa ...	4	546	35	550	12	
	Other Diseases ...	4	389	10	393	6	
	Carried over ...	325	15,146	1,149	15,471	253	

RETURN OF DISEASES AND DEATHS IN 1903.

	Diseases	Remaining at end of 1902.	Yearly Total.		Total Cases Treated.	Remaining at end of 1903.	Remarks.
			Admissions.	Deaths.			
	Brought Forward	325	15,146	1,149	15,471	253	
LOCAL DISEASES	Lymphatic System :						
	Splenitis	...	15	....	15	...	
	Hypertrophia Splenis	12	492	15	504	7	
	Adenitis	6	84	....	90	1	
	Lymphangitis	2	40	....	42	2	
	Abscess of Spleen	...	2	2	2	...	
	Other Diseases	...	1	....	1	...	
	Urinary System :						
	Nephritis	24	338	61	362	5	
	Pyelitis	...	3	1	3	...	
	Cystitis	...	85	....	85	2	
	Chyluria	...	6	....	6	...	
	Calculus	...	10	....	10	...	
	Sloughing of Bladder	...	2	2	2	...	
	Perinephretic Abcess	...	1	....	1	...	
	Hœmaturia	...	2	....	2	...	
	Other Diseases	...	11	2	11	...	
MALE ORGANS	Generative System :						
	Stricture of Urethra	1	56	....	57	3	
	Prostatitis	...	5	....	5	...	
	Phimosis	...	20	....	20	1	
	Paraphimosis	1	15	...	16	1	
	Ulcus Vener. Molle	2	76	....	78	7	
	Hydrocele	...	82	....	82	2	
	Orchitis	2	83	....	85	2	
	Urinary Fistula	...	15	....	15	2	
	Balanitis	...	4	....	4	...	
	Hæmatocele	...	1	....	1	...	
	Other Diseases	2	58	....	60	4	
	Carried over...	377	16,653	1,232	17,030	292	

RETURN OF DISEASES AND DEATHS IN 1903.

		Diseases.	Remaining at end of 1902.	Yearly Total.		Total Cases Treated	Remaining at end of 1903.	Remarks.
				Ad-missions.	Deaths			
LOCAL DISEASES		Brought Forward	377	16,653	1,232	17,030	292	
	FEMALE ORGANS	Oöphoritis ...	...	6	...	6	...	
		Parametritis ...	...	3	...	3	...	
		Metritis ...	1	16	...	17	...	
		Endometritis ...	...	13	...	13	...	
		Displacement of Uterus ...	1	12	...	13	1	
		Rupture of Uterus ...	...	1	...	1	...	
		Vaginitis ...	...	21	...	21	...	
		Amenorrhœa ...	...	4	...	4	..	
		Dysmenorrhœa ...	...	1	...	1	...	
		Menorrhagia ...	...	8	...	8	...	
		Metrorrhagia ...	...	5	...	5	...	
		Abortion ..	...	8	...	8	...	
		Post partum Hæmorrhage ...	...	1	1	1	...	
		Mastitis ...	...	12	...	12	...	
		Abcess of Breast.	1	10	...	11	1	
		Parturition ...	1	74	1	75	1	
		Vesico Vaginal Fistula ...	1	2	...	3	...	
		Gestation ...	...	5	...	5	...	
		Rupture of Perineum ...	...	1	...	1	...	
		Other Diseases	...	62		62	2	
		Organs of Locomotion :—						
		Osteitis ...	6	3	...	9	...	
		Caries ...	1	19	...	20	2	
		Necrosis ...	...	18	...	18	2	
		Periostitis ...	...	9	1	9	...	
		Synovitis ...	....	10	...	10	3	
		Arthritis ...	3	76	2	79	4	
		Ankylosis ...	....	3	...	3	...	
		Other Diseases ...	...	30	...	30	...	
		Carried over...	392	17,086	1,237	1,748	308	

RETURN OF DISEASES AND DEATHS IN 1903.

	Diseases.	Remaining at end of 1902.	Yearly Total.		Total Cases Treated	Re-maining at end of 1903.	Remarks.
			Admis-sions	Deaths			
	Brought forward	392	17,086	1,237	17,748	308	
LOCAL DISEASES	Cellular Tissue						
	Cellulitis and Abscess ...	21	477	8	498	21	
	Gangrene ...	2	36	10	38	4	
	Elephantiasis ...	...	20	...	20	2	
	Other Diseases ...	....	14	....	14	1	
	Diseases of the Skin :—						
	Erythema ...	...	2	...	2	....	
	Eczema ...	4	156	...	160	5	
	Impetigo ...	1	146	...	147	5	
	Psoriasis ...	...	4	...	4	....	
	Herpes ...	...	9	...	9	....	
	Zona ...	...	5	...	5	1	
	Pemphigus ...	...	4	...	4	....	
	Carbuncle ...	1	16	...	17	1	
	Furunculus ...	1	35	...	36	....	
	Paronychia ...	...	11	...	11	....	
	Ulcus ...	14	615	...	629	36	
	Ecthyma ...	2	23	...	25	2	
	Other Diseases ...	3	40	...	43	1	
	Injuries :— ...						
	General: Burns ...	...	8	4	8	....	
	General: Asphyxia ...	...	1	1	1	....	
	Carried over	441	18,708	1,260	19,149	387	

RETURN OF DISEASES AND DEATHS IN 1903.

Diseases.	Remaining at end of 1902.	Yearly Total.		Total Cases Treated.	Remaining at end of 1903.	Remarks.
		Admissions.	Deaths.			
Brought forward ...	441	18,708	1,260	19,149	387	
LOCAL INJURIES						
Burns & Scalds ...	2	41	3	43	5	
Bruise ...	4	303	...	307	2	
Wound ...	16	708	...	724	20	
Sprain ...	1	49	....	50	1	
Dislocation ...	...	20	....	20	...	
Fracture ...	6	131	9	137	15	
Gunshot Wound ...	...	10	....	10	1	
Rupture of Spleen ...	...	2	2	2	...	
Concussion of Brain ...	...	1	...	1	...	
Malformations—						
Of Abdomen ...	...	1	...	1	...	
Genitals ...	...	1	...	1	...	
Lips ...	...	2	...	2	...	
Poisons—						
Mineral ...	...	4	3	4	...	
Vegetable ...	3	7	...	10	...	
Animal ...	...	1	...	1	...	
Parasites—						
Round Worms ...	...	81	...	81	...	
Thread Worms ...	...	23	...	23	...	
Itch ...	8	360	...	368	5	
Bilharzia Hoematobia ...	...	6	...	6	...	
Guinea Worm ...	...	1	...	1	...	
Not Specified ...	8	407	...	415	8	
Total ...	489	20,867	1,277	21,356	444	

H. LORANS
M. B. C. M ; D. Ph. Edin.,
Ag : Director Medical & Health Department.

RETURN OF SURGICAL OPERATIONS.

Operations.	Number.	Deaths.
Operations for Tumours	33	1
„ Evacuation of abscesses ...	388	4
„ Removal of Foreign bodies ...	2	
Operations on Blood vessels	13	1
„ Lymphatic glands ...	12	2
„ Skin and Subcutaneous tissues.	38	
„ Bones	20	1
„ Joints	18	1
„ Muscles and Tendons ...	3	
„ Skull and Brain	3	
„ Eye	54	
„ Ear	1	
„ Head and Face	26	
„ Chest	8	1
„ Abdominal cavity ...	49	11
„ Liver	19	4
„ Spleen	1	1
„ Rectum and anus... ...	12	
„ Urinary System	43	5
„ Male generative organs ...	116	1
„ Female „ „ ...	20	
Amputations	35	6
Obstetric operations	12	1
Other operations	14	
Total ...	940	40

H. LORANS,

Ag. Director
Medical & Health Dept.

Return of Births in Hospitals during 1903.

Born in 1903	Number	Deaths.	Remarks
Born alive ...	72	2	At the end of 1902, one new born remained in Hospital, and at the end of 1903 one also remained.
Still born ...	9	9	
Prematurely born ...	13	11	
TOTAL	94	22	

H. LORANS,

Acting Director Medical & Health Department.

Return of Mental Diseases treated at the Lunatic Asylum during 1903.

Diseases	Remaining at end of 1902.	Admissions.	Deaths.	Total treated.	Remaining at end of 1903.
Idiocy ...	7	5	2	12	8
Mania ...	207	68	17	275	196
Melancholia ...	17	18	5	35	23
Dementia ...	124	11	6	135	122
Delusional Insanity ...	48	2	...	50	50
TOTAL	403	104	30	507	399*

This number includes 3 patients who had absconded.

H. LORANS,

Acting Director Medical & Health Department.

ANNEXURE II.

Statement showing Plague Incidence and death rate since 1899.

A. Epidemic period. B. Quiescent stage.

	January to May 1899.		June 1899 to March 1900		April to July 1900.		August 1900 to March 1901.		April to August 1901.		Sept. 1901 to March 1902.		April to August 1902.		Sept. 1902 to March 1903.		April 1903 to June 1903.		July 1903 to February 1904.	
	Cured.	Died.	Cured.	Died.	Cured.	Died.	Cured.	Died.	Cured.	Died.	Cured.	Died.	Cured.	Died.	Cured.	Died.	Cured.	Died.	Cured.	Died.
A. Port Louis ...	...	...	172	698	...	...	94	334	...	...	180	593	...	...	62	213	...	...	211	769
Pamplemousses ...	...	...	24	88	...	...	30	74	...	...	14	26	...	...	...	3	...	...	3	16
Riv. du Rempart ...	...	...	32	99	...	...	57	108	...	...	26	43	...	...	...	...	...	...	1	6
Flacq ...	...	...	2	1	...	...	6	15	...	...	14	32	...	...	...	...	...	...	24	27
Grand Port ...	...	...	3	2	...	...	5	11	...	...	2	2	...	...	1	1	...	...	17	43
Savanne ...	...	...	15	63	...	...	6	7	...	...	1	3	...	...	...	1	...	...	12	16
Plaines Wilhems ...	...	...	68	207	...	...	21	91	...	...	55	84	...	...	24	44	...	...	106	234
Black River ...	...	...	...	5	...	...	...	3	...	...	...	...	...	...	...	...	...	...	2	5
Moka ...	...	...	3	9	...	...	1	1	...	...	...	1	...	...	1	1	...	...	...	1
			319	1,172			220	644			292	784			88	263			376	1,117
Total No. of cases...	...	...	1,491				864				1,076				351				1,393	
Death rate %...	...	...	78.6				74.5				72.9				74.9				77.8	
B. Port Louis ...	3	16			...	10			4	9			1	12			...	7		
Pamplemousses ...	...	2			...	...			1	6			...	3			...	...		
Rivière du Remt. ...	...	...			...	...			...	1			...	...			...	...		
Flacq ...	...	...			...	...			...	...			...	...			...	...		
Grand Port ...	...	...			...	...			...	...			...	...			...	...		
Savanne ...	...	...			...	...			...	...			...	...			...	...		
Plaines Wilhems ...	...	...			3	5			...	4			2	6			2	4		
Black River ...	...	...			...	...			...	...			...	...			...	...		
Moka ...	...	...			...	...			...	...			...	...			...	...		
	3	18			3	15			5	20			3	21			2	11		
Total No. of cases...	21				18				25				24				13			
Death rate %...	85.7				83.3				80.				87.5				84.6			

H. LORANS,
Acting Director

Statement showing the number of plague cases and mortality for the year 1903.

Months.	Port Louis.		Pample-mousses.		Rivière du Rempart.		Flacq.		Grand Port.		Savanne.		Plaines Wilhems.		Black River.		Moka.		Total.	
	Cured.	Died.	Cured	Died.	Cured.	Died.	Cured.	Died.	Cured.	Died.	Cured.	Died.	Cured.	Died.	Cured.	Died.	Cured.	Died.	Cured.	Died.
January	3	13	...	...	...	...	...	...	...	...	...	...	11	15	...	...	...	...	14	29
February	3	3	...	...	...	...	...	...	...	...	...	...	6	1	...	...	...	...	9	4
March	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3
April	...	...	...	..	...	...	...	...	...	...	...	...	1	2	...	...	...	...	1	2
May	...	2	...	..	...	...	...	...	...	...	...	...	1	2	...	...	...	...	1	4
June	...	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5
July	4	22	...	..	...	...	...	...	...	...	...	...	2	2	...	...	...	...	6	24
August	15	56	...	...	...	...	...	...	...	...	1	6	1	1	...	...	...	...	17	63
September	28	128	...	..	...	...	...	...	...	...	...	1	2	10	...	...	...	...	30	139
October	80	254	1	...	...	3	1	1	2	3	4	3	29	38	...	3	...	1	117	306
November	44	147	1	3	1	3	1	...	...	6	4	4	29	66	...	...	2	8	82	237
December	24	120	1	6	...	...	3	3	8	23	1	2	30	59	...	...	16	6	83	219
Total	201	753	3	9	1	6	5	4	10	32	10	16	112	196	...	3	18	15	360	1,035
Grand Total	954		12		7		9		42		26		308		3		33		1,395	
Death percentage.	78.9		75		85.7		44.4		76.2		63		60.4		100		45.5		74.2	

H. LORANS,
Acting Director.

Dispensary Return.
1903.

Dispensaries.	Total cases treated.	Remarks.
Port Louis, Central Dispy.	2,693	38,420 different pauper patients applied at the various Dispensaries for assistance during the year 1903.
,, Eastern	3,861	
,, Western	2,228	
Terre Rouge	2,711	
Pamplemousses	921	
Long Mountain	1,153	
Grand Bay	1,434	
Grand Gaube	1,566	
Poudre d'Or	1,160	
Flacq	434	
Rivière Sèche	826	
Trou d'Eau Douce	1,239	
Mahebourg	2,593	
Bois des Amourettes	2,395	
Plaine Magnien	2,007	
New Grove	886	
Escalier	1,649	
Souillac	1,689	
Rivière des Anguilles	1,764	
Chemin Grenier & Petit Cap	2,506	
Petite Rivière	690	
Case Noyale	902	
Bambous	1,188	
Barkly Asylum	2,745	
Government Reformatory	254	
Vacoas	2,383	
Curepipe	3,678	
Saint Pierre	1,313	
Pailles	1,330	
Total	50,198	

H. LORANS,
Acting Director.

Annual Report on the Civil Hospital for 1903.

1. The number of admissions to the Civil Hospital was nearly as high as last year, being 6062 as against 6092 in 1902.

The following table gives the admissions and deaths for the last 12 years :

TABLE I.

Year.	Admissions.	Deaths.
1892	5273	496
1893	5347	541
1894	4544	316
1895	4937	350
1896	5117	372
1897	5039	320
1898	5658	356
1899	5230	418
1900	5260	410
1901	5554	509
1902	6092	428
1903	6062	520

2. Table II is a comparative statement showing the number of European, Creole and Asiatic patients admitted during the last three years.

TABLE II.

Nationalities	1901	1902	1903
Europeans	241	129	124
Creoles	3622	4334	3587
Asiatics	1691	1629	2351
	5554	6092	6062

The above figures show a steady decrease in the number of Europeans and a considerable increase in that of the Asiatics. On the other hand, there was in 1903 a marked reduction in the creole element as compared with the previous year.

3. The admissions did not all belong to the district of Port Louis. A certain number came from the country districts, chiefly Pamplemousses. The following is a classification of the admissions according to their designations and the localities to which they belonged.

TABLE III.

Districts	Paupers	Private Patients	Police Force	Prison warders	Police Cases*	Port Dept.	Non paying patients§	Total	Deaths
Port Louis	3906	623	518	43	72	43	358	5563	434
Pamplemousses	140	6	35	...	...	...	...	181	47
Rivière du Rempart	...	9	3	...	...	...	...	12	1
Flacq	...	8	2	...	...	...	...	10	4
Moka	118	8	6	...	...	...	...	132	18
Plaines Wilhems	3	6	71	30	...	...	...	110	3
Grand Port	...	10	15	...	...	...	...	25	10
Savanne	...	2	5	...	...	...	...	7	1
Black River	...	2	20	...	...	...	...	22	2
Total ...	4167	674	675	73	72	43	358	6062	520

* Cases of wounds and blows and unconvicted prisoners.

§ Laborers in the Government service.

It results from the above statement that Pamplemousses and Moka account for the majority of the admissions from the country. Such patients were chiefly paupers sent by the Public Dispensaries of these Districts.

The admissions from the rural districts gave a death rate of 17. 2 per cent while those of town one of 7.8 per cent. This large difference is due to the hopeless condition in which not a few country patients were sent to this Hospital, more particularly from the Dispensaries of Pamplemousses. As many as 20 of these died in less than 72 hours.

In many instances, conveyance by carriole from such a long distance proved decidedly harmful to these patients.

4. The total number of patients treated was 6237 and their daily average number in Hospital, was 1991 as against 209 in 1902 and 192 in 1901. Table IV gives the daily average number of male and female patients for the last 3 years.

TABLE IV.

Years	Daily average number in Hospital		
	Males	Females	Total
1901	141	51	192
1902	150	59	209
1903	139	60	199

The highest number in Hospital on any one day was 261 viz :—197 males and 64 females.

This number was reached on the 12th of February.

5. The following is a tabular statement showing the number of admissions, discharges and deaths in 1903.

TABLE V.

	Males	Females	Total		
Number remaining at end of 1902	127	48	175	6237	
Number admitted in 1903	4659	1403	6062		
Total Number treated	4786	1451		6237	
Cured	2942	922	3864	5575	6237
Relieved	1053	329	1382		
Not improved	284	45	329		
Number died	406	114		520	
Number remaining at end of 1903	101	41		142	

6.—The rate of mortality, although much higher than last year, was still slightly below that of 1901, as can be seen from the following table.

TABLE VI.

Years	Number of patients treated	Number of Deaths	Death rate per cent of patients
1901	5684	509	8.9
1902	6201	428	6.9
1903	6237	520	8.3

The increased mortality recorded in 1903 was due to several causes, the chief of which were :—

1o. The greater number of patients admitted *in extremis*.

2o. The higher case mortality of Tuberculosis and Debility.

3o. The exceptional occurrence of Beriberi in an epidemic form.

According to table VII. no fewer than 165 patients died within 72 hours after their admission, as against 118 last year.

TABLE VII.

Patients who died within 24 hours after admission	Patients who died between 24 and 48 hours after admission	Patients who died between 48 and 72 hours after admission
83	51	31

7.—The diseases most commonly met with were Malaria, Tuberculosis and Influenza. Next in frequency came Bronchitis, Rheumatism, Dysentery, Bright's disease, Anæmia, Debility, Pneumonia, Hypertrophy of spleen and Beriberi.

Table VIII shows the relative frequency and mortality of the chief complaints for the last three years.

TABLE VIII.

Diseases	Cases			Deaths			Case Mortality per cent		
	1901	1902	1903	1901	1902	1903	1901	1902	1903
Malaria	841	1124	942	16	4	21	1.9	.35	2.2
Tuberculosis	403	554	502	131	106	129	32.5	19.	25.8
Influenza	293	261	402	6	4	9	2.	1.5	2.3
Dysentery	208	220	244	49	36	44	23.5	16.3	21.5
Plague	62	28	72	22	15	20	45.1	53.9	27.7
Beriberi	...	8	100	...	...	33	...	...	33.
Syphilis	24	25	131	6	2	5	23.9	8.	3.8
Anæmia	129	155	243	4	6	3	3.1	4.	1.2
Debility	107	141	213	28	23	72	26.2	16.3	34.
Bronchitis	388	482	366	5	9	4	1.3	1.8	1.1
Pneumonia	140	221	194	51	71	55	36.4	32.1	29.3
Bright's disease	97	112	129	24	22	25	24.7	19.6	19.3
Rheumatism	261	295	265	...	3	1	...	1.	.4
Injuries	357	318	345	6	7	5	1.6	2.2	1.1

This table shows an increase over the two previous years in the number of cases of Anæmia, Debility, Dysentery, Bright's disease, Plague and, more particularly, of Syphilis and Influenza.

Malaria and Tuberculosis prevailed to a less extent than in 1902 but nevertheless accounted for a greater number of cases than in 1901. The exceptionally large number of Beriberi cases shows the epidemic character of the disease in 1903.

It results also from the above figures that the case mortality of Malaria, Tuberculosis and Debility exceeded that recorded in the preceding year.

8.—Table IX gives the admissions and deaths during the four quarters of the year as compared with 1901 and 1902.

TABLE IX.

	Admissions			Deaths		
	1901	1902	1903	1901	1902	1903
First Quarter	1562	1507	1845	115	102	133
Second „	1620	1497	1626	140	87	111
Third „	1312	1490	1340	138	122	162
Fourth „	1060	1598	1251	116	117	114
	5554	6092	6062	509	428	520

According to the above statement the greatest number of admissions in 1903 is found in the first quarter and the greatest number of deaths in the third.

9.—The following table, which gives the monthly admissions for the most important diseases, shows their comparative prevalence in different seasons of the year.

TABLE X.

	Malaria	Hypertrophy of spleen	Anœmia	Debility	Dysentery	Rheumatism	Tuberculosis	Influenza	Bronchitis	Pneumonia	Plague	Beriberi
January	103	8	23	25	23	18	48	5	52	23	....	18
February	150	31	23	19	21	25	38	....	81	17	. ..	16
March	153	22	18	20	29	16	34	2	49	20	1	23
April	107	9	21	27	33	16	33	42	42	15	....	7
May	87	10	28	18	23	26	38	51	19	9	....	6
June	65	13	20	20	15	23	36	70	24	8	2	1
July	41	3	17	20	20	21	43	73	12	24	2	1
August	44	8	18	11	19	26	44	54	13	23	5	3
September	25	1	25	16	19	22	39	38	15	23	17	9
October	40	5	25	19	19	17	48	25	24	11	20	6
November	44	4	15	10	8	23	49	27	10	8	12	2
December	60	10	10	8	6	25	34	15	12	13	12	2
Total ...	929	124	243	213	235	258	406	482	353	194	71	94

The admissions for Malaria and Bronchitis were most numerous in January, February, March and April. Tuberculosis was prevalent all the year round. Beriberi occurred chiefly in the first quarter, Influenza in the third quarter, and Pneumonia in the first and third quarters. March and April were answerable for the greatest number of admissions for Dysentery.

10.—*Malaria.* There was a marked decrease in the number of admissions for this disease as compared with the previous year, the figures being 929 in 1903 and 1120 in 1902.

The following is a classification, according to their clinical varieties, of the Malarial cases treated during the year.

TABLE XI.

Clinical varieties	Number of Cases	Deaths
INTERMITTENT		
1. Quotidian	293	...
2. Tertian	10	...
3. Quartan	4	...
4. Irregular	15	...
5. Type undiagnosed	559	...
Remittent	51	16
Pernicious	10	5
Total ...	942	21

As can be seen from table VIII, the rate of mortality of Malaria was this year much higher than in 1902. This result is entirely due to the greater number of malignant cases admitted. There were 22 remittent and 9 pernicious cases more than last year. These two varieties, which are alone accountable for the fatal cases, gave respectively death rates of 31 and 50 per cent.

Death was caused by cerebral complications, hyperpyrexia or the anæmic and debilitated state in which many of the patients were admitted. In three fifths of the cases, the type of the fever could not clinically be recognised, owing to the fact that the attacks yielded readily to quinine and did not recur.

In a few instances, film preparations of the blood were made which enabled us to determine under the microscope the species of the Malarial parasite present. It is much to be regretted that the great frequency of this disease on the one hand, and the insufficiency of the professional staff of the hospital on the other, have, up to now, rendered it impossible for us to ascertain in every case the nature of the Malarial infection by the examination of the blood on admission.

Until this desideratum can be effected we are for practical purposes left entirely with the clinical classification adopted.

The cases of Chronic Malaria characterised by Hypertrophy of the Spleen, numbered 124, as against 175 in 1902.

11.—*Dysentery.* The following Dysentery return shows a decided increase over the preceding year, for which the chronic variety is alone responsible.

TABLE XII.

	Cases		Deaths	
	1902	1903	1902	1903
Acute Dysentery	142	138	2	5
Chronic Dysentery	78	106	34	39
	220	244	36	44

The case mortality of acute Dysentery was higher than in 1902. The same remarks I made last year with regard to the state in which patients suffering from this common complaint repair to hospital, apply with still greater force to this year's admissions.—

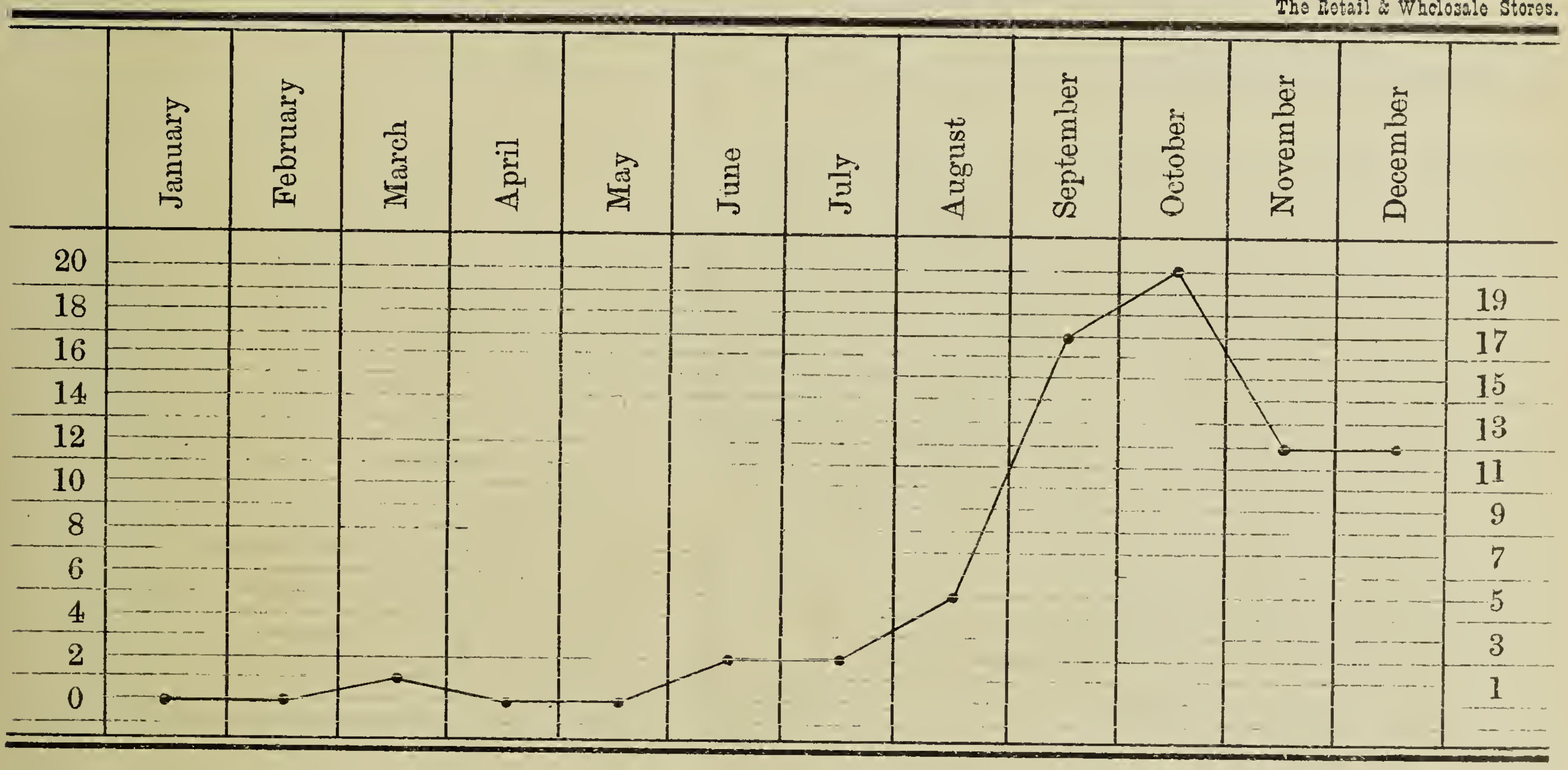
This obstinacy on the part of the uneducated creole and Indian classes to have recourse to hospital treatment *en dernier ressort* is the chief cause of the comparatively high death rate of this disease, which is so amenable to treatment, when seen at the outset.

12.—*Enteric Fever.* There were only two cases of Enteric fever with no death. In both cases, the diagnosis was confirmed by Widal's sero-reaction.

13.—*Influenza.* This disease was considerably on the increase in 1903, the admissions being 402 in number, as against 261 in

Chart I.

The Retail & Wholesale Stores.



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1902 and 292 in 1901. Fortunately, the cases were for the most part of a benign nature. There were only 9 deaths giving a case mortality of 2.3 per cent.

The disease prevailed most in the second and third quarters of the year, the greatest number of admissions being recorded in July.

14.—*Plague.* The cases of Plague that came under notice in this Hospital were more numerons this year than in the two previous years, the numbers being :—

1901	62 admissions
1902	28 „
1903	71 „

In all these cases, the diagnosis of Plague was made on the admission of the patients or two or three days after, at latest. There is no instance of the disease having ever been contracted in Hospital by patients or attendants.

The accompanying chart gives the curve of the case incidence of Plague in the Civil Hospital in 1903.

It will he seen from this tracing that the disease prevailed most in the last four months of the year and that October is answerable for the largest number of admissions.

There were in the year under review more cases of Plague Pneumonia than in 1902. Four obscure cases, which proved rapidly fatal, were unattended by buboes or pulmonary symptoms.

The real nature of the affection was only ascertained after death upon bacteriological examination of streak preparations from the spleen.

As usual, Plague patients were transferred to the Lazaret as soon as the disease was diagnosed, except in the case of 20 of them who were too weak to be removed with safety and who died in this Hospital.

15.—*Tuberculosis.* This disease showed a slight decrease in the number of admissions as compared with the preceding year. The mortality was higher, as can be seen from table VIII. The total number of cases treated was 502, classified into the following varieties :—

	Cases	Deaths
Pulmonary Tuberculosis	466	121
Tubercular Enteritis	12	4
Tubercular Meningitis	4	4
Tubercular Arthritis	4	—
Tubercle of Lymphatic Glands	16	—
	502	129

As a rule, patients suffering from Phthisis are received in this Hospital in the last stage of the disease. Many die shortly after their admission. The rest, after a longer or shorter stay, leave Hospital, some, no doubt improved, but the majority only to return home to die.

It is very sad to have to note that Tuberculosis alone was in 1903 answerable for 129 deaths out of a total of 520 for all diseases. In presence of the above facts which are of yearly occurrence, I cannot refrain from again calling the attention of Government to the necessity of creating a Sanatorinm for tuberculous patients. Apart from prophylactic measures, such a scheme will certainly lead to a marked diminution in the death rate of this disease, so alarmingly prevalent among the working and poorer classes.

A properly organised institution situated in a suitable locality will no doubt induce tuberculous patients to apply for intelligent treatment at an earlier stage of the disease than they actually do.

As matters now stand, such patients are in this hospital located in special and thoroughly ventilated wards where stringent measures are adopted with regard to the disinfection of the sputum. Yet, although everything is done in this establishment to reduce to a minimum the risks of contamination, it strikes me that it is not, on principle, advisable to keep a large number of tuberculous cases in a general hospital, especially when it is remembered that the wards adapted to their use are contiguous to the other wards,and when the careless and slovenly habits of the patients one has to deal with are taken into consideration.

An innovation was introduced this year into the tuberculous wards in the shape of ingeniously constructed spittoons,consisting of brass brackets fitted to the bedsteads and supporting aluminium cups for the reception of removable paper linings. the latter have to be renewed every morning, the used ones being burnt. This apparatus,which is certainly likely to prove very useful in the hands of intelligent and well to do patients, have not been found appropriate to the class of patients who generally resort to hospital. They cannot be prevailed upon to use exclusively the small paper receptacles and as frequently spit outside as they do inside it. Moreover, some creole patients, women especially, occasionally object to the use of the paper spittoon, when they know that it is destined to be burnt, on the superstitious belief that the burning of their sputum will parch their stomach. For my part, I am of opinion that wide-mouthed enamelled spittoons of large size so constructed as to be easily disinfected, and supported on stands so as to be almost on a level with the beds, will be far more serviceable than the article in present use.

16.—*Beriberi.* As stated in last year's report, Beriberi has been long existing in a sporadic form among the Chinese residents of the Island.—Cases, few and far between, have always been met with in the practice of this Hospital, but the true nature of the disease, which was formerly designated by some under the term of Chinese Paralysis, has only been recognised within the last five or six years.

The admission of three cases in October and five in December 1902 was therefore of exceptional occurrence, and indicated the tendency of the disease to assume an epidemic character.—

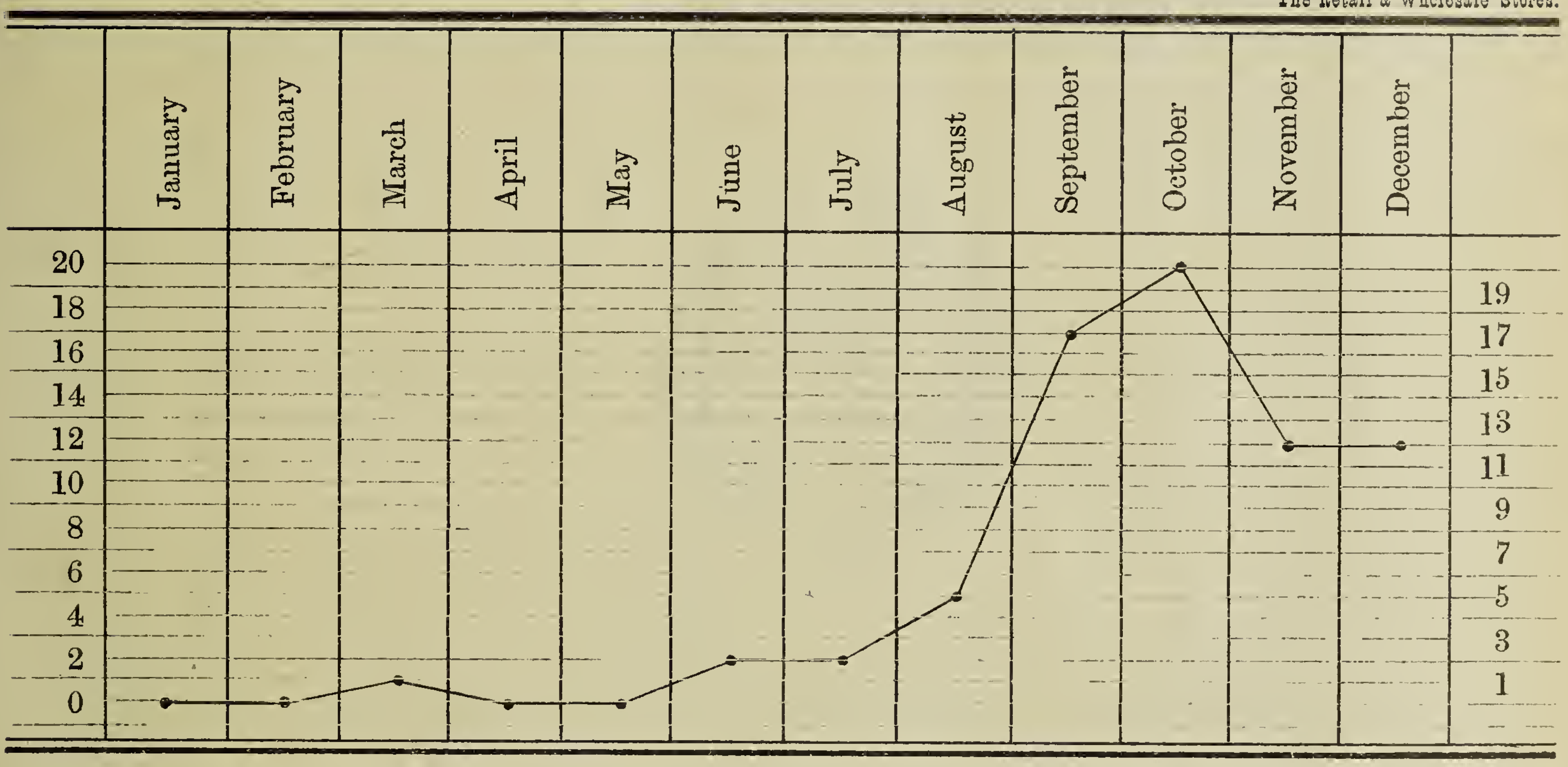
As a matter of fact, an outbreak did actually occur, for in the course of 1903 as many as 94 Beriberi patients were admitted, of whom no fewer than 57 in the first quarter alone.

With the exception of a lascar landed in a dying state from a British steamer, the patients were all Chinese and, nearly all, new immigrants introduced into the Island, only a few months before their admission to hospital, by one or other of the following steamers :—

1o. S. S. Tai-Foo carrying 250 Chinese immigrants,
[arrived 22nd May 1902.
2o. S. S. Tai-Lee „ 391 „ immigrants,
[arrived 1st June „
3o. S. S. Tai-Foo „ 564 „ immigrants,
[arrived 28th October „
4o. S. S. Haldis „ 735 „ immigrants,
[arrived 8th November „

Chart I.

The Retail & Wholesale Stores.



Seamen's Hospital Society
TROPICAL
DISEASES
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It has unfortunately not been possible to ascertain what were the hygienic conditions to which these Immigrants were exposed on board, nor what sort of food they had, so that the origin of the outbreak remains to us a mystery.—

The accompanying chart gives the march of the outbreak, as shown by the monthly admissions to this Hospital. It will be seen that the admissions were more numerous in January, February and March, with 18, 16 and 23 cases respectively, and that at the end of the year the spread of the disease was on its decline.

With regard to the few patients, about 5 or 6, who were old residents of this Colony, I was not able, from want of information to trace out the origin of the affection whether to direct contagion or not.

Thirty-three patients died.—Of these, 15 in less than 48 hours and 8 between 3 and 7 days after admission, as can be seen from the following statement :—

Died	within	24	hours	after	admission	8
,,	between	24-48	hours	,,	,,	7
,,	,,	48-72	,,	,,	,,	3
,,	in	4	days	,,	,,	3
,,	,,	5	,,	,,	,,	0
,,	,,	6	,,	,,	,,	1
,,	,,	7	,,	,,	,,	1
,,	,,	more than a week			,,	10
					Total ...	33

In the majority of the cases, the disease was of the " dry " or atrophic variety. Only a small proportion showed œdema. In all the cases, both the lower and upper extremities were involved, but, except in the advanced ones, the paralysis was always more marked in the legs. Wrist-drop was present in a few instances and *main en griffe* in one. All the patients, when able to walk, had the characteristic high-stepping gait. Pain in the legs was a constant symptom.

The pulse was in every case quicker than normal. In the worst cases it was from 120 to 130.

The heart, as a rule, was enlarged, but showed no distinct murmur. In some cases, there was reduplication of the second sound and even distinct " *bruit de galop* ". Anœmia was a common symptom but by no means a constant one.—In no case was albumen found in the urine.

In the cases which improved, the appetite was extremely good and even ravenous.

Fever was sometimes present but was, to all appearances, a malarial complication and in no way connected with the disease. Malarial parasites were readily detected in the blood of 3 or 4 of such cases, while in all of them the fever yielded rapidly to hypodermic injections of quinine.

Death was usually ushered in by gastric disturbances and dyspnœa. Appetite is completely lost, vomiting sets in, the patient is distressed by a feeling of oppression and often shrieks in his agony. The intellect remains clear to the last. More rarely death comes on suddenly through syncope.

As all the bodies were claimed, applications for a necropsy met with the strongest objection in every case, save in one. The Post-mortem appearances in that case showed nothing particular beyond slight hypertrophy of the heart, enlargement of the spleen, fatty degeration of the liver and the presence of ankylostoma in the small intestines.

The treatment adopted at first consisted in the administration of Liquor Strychninae, Iodide of Sodium and digitalis, separately and in combination. Trimitrine and hypodermic injections of Ether were given when dyspnœa was present.

These drugs however failed to afford relief in bad cases and were soon given up for the following treatment.

1o. Internal administration of the following mixture :

R/ Liquor Strychninæ hydr :		III minims
Tinct : Ferri Perchlorid :		X minims
Tinct : Digitalis	..	V minims
Acid : Phosphoric : dil :	...	V minims
Infusum Calumbae	ad	I ounce

t. i. d. s.

N.B. The above mixture is the one used in the Hong-Kong Civil Hospital, slightly modified by the addition of Liquor Strychnina.

2o. A liberal diet consisting of beef, fish, milk, bread, butter and tea. Rice was generally omitted from the diet until convalescence had set in.

3o. Massage and, in some cases, electricity.

This treatment gave very satisfactory results ; some apparently hopeless cases rallied under its application. Several patients left hospital completely cured.—

17.—*Syphilis.*This disease in its different manifestations accounted for a greater number of admissions than on the two previous years, the numbers being :

1901	85	admissions
1902	110	„
1903	128	„

The total number of cases treated was :

	Cases	Deaths
Inherited ..	2	1
Primary ...	53	..
Secondary ...	35	...
Tertiary ...	41	4
	131	5

The deaths were few viz :— One from infantile syphilis (inherited) and four from tertiary sympoms.

18.—*Anæmia and Debility.* Admissions for these two diseases have been considerably on the increase, as can be seen from Table VIII. In a great proportion of these cases, the patients did not require active treatment and were fitter subjects for an Infirmary than for this hospital where their presence frequently contributed to the overcrowding of the wards.

There were 72 deaths from Debility almost invariably associated with old age.

19.—*Respiratory diseases.* There was a marked diminution both in the case incidence and death-rate of Bronchitis and Pneumonia, as compared with last year. It is interesting to remark that while Pneumonia gave the greatest number of admissions in the winter months, this was not the case with Bronchitis which prevailed chiefly in the first four months of the year (vide table X).

20.—*Diseases of the Urinary System* :

I have in a previous report called attention to the steadily increasing frequency with which cases of Bright's disease are met with in the practice of this Hospital. As can be seen from table VIII, there were in 1903, 17 cases more than in 1902 and 32 cases more than in 1901. The case-mortality, 19. 3 per cent, was a little below that of last year.

21.—*Injuries.* The following is a list of the various kinds of injuries met with in 1903.

Injuries	Cases	Deaths	Remarks
General : —			
Burns	2	2	cases of extensive burns involving the trunk
Local :—			
Burns	14	...	
Bruise	42	...	39 were police cases
Wound	203	...	49 ,, ,, ,,
Sprain	38	...	2 ,, ,, ,,
Dislocation	6	...	
Fracture	36	2	3 ,, ,, ,,
Gunshot wound	3	...	
Rupture of spleen	1	1	The result of accidental violence
Total	345	5	

Return of Fractures and Dislocations

I. Fractures

Fracture of base of skull	1
,, ,, Nasal bone	1
,, ,, Clavicle	2
,, ,, Scapula	1
,, ,, Humerus	4
,, ,, Radius	4
,, ,, Ulna	1
,, ,, Phalanges of Hand	3
,, ,, Rib	1
,, ,, Spine	1
,, ,, Femur	3
,, ,, Tibia	4
,, ,, Fibula	2
,, ,, Tibia & Fibula	1
,, ,, Phalanges of toes	7
	36

There was one case of fracture of the base of the skull, the result of a kick from a horse which also fractured the right upper maxillary and malar bones. The bleeding from the right ear was profuse. The patient lay for three days in a comatose condition. On the 4th day, signs of improvement set in and the patient eventually made a successful recovery.

A case of compound fracture of the lower end of the femur ended fatally from suppuration involving the knee joint. Although the necessity of the amputation as the only means of saving his life was clearly and repeatedly explained to the patient, he positively refused any surgical interference beyond free incision and drainage, which however proved unavailing.

A case of fracture of the spine, caused by the fall of a bag of rice on the back, also proved fatal. The patient died 3 weeks after the accident.

The case of rupture of the spleen referred to above, was that of a man who was brought to Hospital by the police in a dying state and who died a few minutes after admission. The nature of the lesion was confirmed by post-mortem examination.

21.—*Poisoning.* There were three cases of suicidal poisoning viz : two with carbolic acid and one with nitric acid, and one case of poisoning with opium which recovered. The patient, an old opium eater, had taken a stronger dose of the poison than usual.

23.—*Obstetrical Returns.*

36 women were confined this year in the Civil Hospital as compared with 48 in 1902.

The cases are classified as follows.

I. Premature delivery		5
II. Full term delivery		
Natural Labour	L. O. A. presentation	27
	R. O. P ,,	1
	L. O. P. ,,	1
	Breech ,,	1
Dystocia	Forceps application for inertia uteri (L.O. A)	1
	Total	36

Four of these women died from diseases complicating Pregnancy viz :—two from Pulmonary Tuberculosis, and two from Remittent Malarial Fever attended by Anœmia.

The following is a classification of the new born children.

		Males	Females	Total
Full term	Born alive	20	9	29
	Born dead	2	0	2
Premature birth	Living	1	1	2
	Died shortly after birth	1	2	3
	Total	24	12	36

To sum up, 29 full term and 2 prematurely born children lived; 2 were still born and 3, born prematurely, died shortly after birth.

24.—*Surgical Operations.*

The following is a list of the operations performed during the year.

	Cases	Deaths
REMOVAL OF TUMOURS :—		
Non Malignant		
Papilloma	2	
Fibroma	1	
Lipoma	1	
Sebaceous Cyst	4	
Malignant		
Carcinoma of breast	2	
Epithelioma		
(a) of Lip	1	
(b) of penis	1	1*
Adeno-Sarcoma of groin	2	
Cystic-Sarcoma of groin	1	
Chondro-Sarcoma of testis	1	
2.—AMPUTATIONS :—		
Shoulder	1	
Arm	1	
Thigh	1	
Leg	2	§1
Toes	3	*1
3.—EXCISION OF FRAGMENTS OF BONES FOR NECROSIS :—		
Femur	1	
Tarsus	3	
Metatarsus	1	
Calcaneum	1	
Olecranon	1	
Phalanx	4	
Lower Jaw	1	
4.— REDUCTION OF FRACTURE (under chloroform)		
Femur (compound)	2	1
Tibia and Fibula (compound)	1	
5.— OPERATIONS ON JOINTS		
Reduction of dislocations		
(a) Shoulder	3	
(b) Elbow	1	
(c) Hip	1	
Arthrotomy	2	
Aspiration of knee-joint	3	1*
Reduction of ankylosis	1	
6. OPERATIONS ON THE EYE		
Cataract	9	
Iridectomy	2	
Critchett's operation for staphyloma	1	
Wecker's operation for staphyloma	2	
Excision of eyeball	3	
7.—OPERATIONS ON THE EAR		
Removal of aural polypi	1	

	Cases	Deaths
8.—OPERATIONS ON THE HEAD & FACE		
Opening of antrum	1	
Evacuation of Hœmatoma of scalp	1	
Operation for cancrum oris	1	
9.—OPERATIONS ON THE THORAX		
(a) Thoracotomy for Empyema	2	1
(b) Paracentesis of Pleural cavity for serous effusion.	1	
(c) Paracentesis of pleural cavity for hæmothorax	1	
10.—OPERATIONS ON ABDOMEN		
Paracentesis for Ascites	28	6
Abdominal fistula	1	
Radical cure of Hernia	1	
Abscess of the Liver	8	2§
11.—OPERATIONS ON RECTUM & ANUS		
Fistula in ano	2	
Dilatation of anus	1	
12.—OPERATION ON URINARY ORGANS		
(1) Dilatation and catheterisation for stricture of urethra	10	
(2) Urethrotomy		
External	1	
Internal	1	
(3) Urinary fistulæ	6	
(4) Washing of the bladder	3	
(5) Dilatation of female urethra for exploration and curetting of bladder for gangrenous cystitis	1	1§
(6) Extravasation of urine and gangrene of scrotum	1	1§
(7) Suprapubic aspiration of bladder	1	1§
(8) Suprapubic cystotomy for Calculus	3	1*
(9) Suprapubic cystostomy for calculus and gangrenous cystitis	1	1*
13.—OPERATIONS ON MALE GENERATIVE ORGANS		
1. Circumcision	23	
2. Tapping for Hydrocele		
(a) with injection	5	
(b) without injection	6	1†
3. Excision of venereal warts	1	
4. Partial removal of penis for gangrene	1	
5. Suppuration of testicle	1	
14.—OPERATIONS ON FEMALE GENERATIVE ORGANS		
1. Removal of fibroid polypi of uterus	2	
2. Operation for vesico-vaginal fistula	1	
3. Operation for recto-vaginal fistula	1	
4. Curetting of uterus	1	

	Cases	Deaths
5. Operation for atresia vaginae	1	
6. Perineorhaphy	3	
15. OPERATIONS ON TENDONS AND MUSCLES.		
Suppurative Tendinitis	3	
16.—EVACUATION OF ABSCESSES.		
1. Head & Face	5	
2. Thorax	8	
3. Neck	5	
4. Upper extremities	27	
5. Lower extremities	46	1*
6. Generative organs (male and female)	19	
7. Iliac	13	1§
8. Perineal	8	
9. Perinephritic	6	
10. Periosteal	1	1*
11. Diffuse cellulitis	8	
12. Glandular	20	
13. Various regions	8	1†
14. Incision and scraping of sinuses	10	
17.—OPERATIONS ON SKIN & SUBCUTANEOUS TISSUE.		
1. Scraping of indolent ulcers	3	
2. Scraping and cauterising of phagedenic ulcers	5	
3. Excision of phagedenic ulcers	8	
4. Excision of Ainhum	2	
5. Incision of carbuncle	1	
6. Incision of whitlow	3	
18.—LIGATURE OF ARTERIES		
1. Femoral for aneurysm	1	1*
2. Brachial „ hæmorrhage	1	
3. Frontal „ „	1	
4. Radial „ „	2	
5. Anterior tibial „	1	
6. Dorsalis pedis	1	
7. Profunda femoris	1	
19.—OPERATIONS ON LYMPHATIC GLANDS		
Excision of :—		
1. Axillary glands (tubercular)	3	
2. Cervical „ „	1	1†
8. Femoro-inguinal (venereal)	1	1†
20.—SUTURING OF WOUNDS	7	
21.—REMOVAL OF FOREIGN BODY IN FOOT.	1	
22.—EXPLORATION OF BULLET IN THIGH.	1	
	782	50

422 operations were performed, of which
149 under chloroform
58 with Cocaïne
15 with Chloride of Ethyl
200 without anæsthetic

No accident occurred during or after administration of chloroform.

Twenty seven patients who required urgent surgical interference died viz :

8 (marked*) were more than 60 years of age and were carried off by Senile Debility, from a few days to a few weeks after the operation.

7 (marked§) were admitted in a very low state and were only temporarily relieved by the operations performed.

4 (marked †) died from intercurrent affections (viz ; Influenza—Tuberculosis--Bright's disease)

6 relieved by Paracentesis, ultimately died of the diseases which caused the ascites, Cirrhosis of the Liver in the majority of cases.

1. Died of Empyema a few days after operation.

1. Suffering from compound communicated fracture of femur with suppuration involving the knee, refused amputation of the thigh and died of Septicœmia (case reported above).

a. Abcesses of the Liver :— Eight cases of Abscess of the Liver were operated in the course of the year, as against three in 1902. There were two deaths and six complete recoveries. The operation resorted to in every case consisted in free stratified incision into the abscess cavity and drainage by means of two india-rubber tubes of very large calibre. In no case was excision of one or more ribs found necessary. One of the patients died one week after the operation from pulmonary complication and another, admitted in a state of extreme emaciation, died of asthenia one month after the operation. In the 8 cases the abscess was large and single.

b. Suprapubic Cystotomy .—A series of 4 cases of urinary calculi following closely upon each other came under our notice. In 3 cases, the stones were extracted by suprapubic Cystotomy with two successes. The fatal one was due to rhenal complication In the fourth case, an attempt was made to remove the stone by the same process, but, on the bladder being laid open, the calculus was found to be of enormous size and to be firmly jammed between the two rami of the pubic arch. Perineal section had to be performed for its extraction which, even then, could only be effected piecemeal. The stone weighed 125 grammes. The patient was at the same time suffering from gangrenous cystitis, so that both the suprapubic and perineal wounds were left open to allow of free washing of the bladder. For a few days, the case progressed satisfactorily. Unfortunately, the patient who was an old and weakly indian, became unmanageable and one night removed his dressing and drainage tubes. He died a fortnight after the operation.

Bacteriological laboratory work.

25.—The following statement is a summary of the work done in 1903 in the Bacteriological Laboratory attached to this Hospital. The researches were for the most part carried on by Mr. Maya whose technical abilities and genial aptitude to such pursuits every medical man in the Island has had occasion to appreciate.

	Specimens examined	Nature of researches	No.
1	Sputum	Tubercle Bacillus	51
	Pus	”	5
	Urine	”	6
	Pleuritic fluid	”	2
	Milk	”	2
2	False membranes and swabbings from throat	Diphtheria Bacillus	27
3	Urethral discharge	Gonococcus	5
	Urinary sediment	”	3
4	Sputum	Plague bacillus	19
	Blood	”	22
	Film preparations from buboes	”	31
	” ” ” spleen	”	
	” ” ” lungs (after death)	”	5
5	Sputum	Pneumococcus	7
6	Pleuritic fluid	Pathogenic organisms	4
7	Blood	Dysentery parasite	2
	Stools	” Amœbœ	2
8	Blood	Malarial parasites	19
9	Film preparations from spleen (after death)	Typhoïd bacillus	1
	Water	” ”	2
	Blood	Widal's sero-reaction	22
10	Purulent fluid	Pyogenic organisms	13
11	Blood	Filaria Embryos	6
	Urinary deposit	” ”	11
12	Urine	Ova of bilharzia	12
13	Stools	Anchylostoma &other intestinal parasites	3
14	Film preparations from spleen and lungs of rabbits	Bacillus of Rabbit's Septicœmia	4
15	Film preparations from organs of rats	Plague bacillus	12
16	Blood of Bovidæ and Equidæ	Trypanosoma	103
17	Blood of dogs	Pirosoma	7
		Total......	408

The non-bacteriological work consisted of the following :

1.— Microscopical examination of sections of Pathological tissues	... 7
2.—Quantitative analyses of urine ...	... 92
3.— Enumeration of blood corpuscles ...	... 3
4.— Radiographs ...	... 25

In addition to the above, a series of research experiments were made by Mr. Maya to determine the value of the remedy against surra proposed by Dr Edington and that advocated by Veterinary Srgeon Galloway.

Departmental.

1. The question of the transfer of the Royal College having not yet been solved, it has not been possible so far to adapt this hospital to meet all requirements as well as the full exigencies of Modern Science. For instance, the pavilion set aside for female

patients is altogether inadequate. It is an anomaly that this Hospital has not up to now been provided with a properly fitted Maternity. The lying-in section consists in a single room separated from other wards by wooden partitions. In this are kept together women already confined and those expecting to be confined, the consequence being that when labour sets in the only course left us is to screen the patient as much as possible from the others.

2. —This year, an addition has been made to the staff by the appointment of a Matron from England, as recommended by a Committee on the question of nursing in the Hospitals. According to the plan proposed, the lady to be appointed was not only to act as matron to the Civil Hospital, but also to train local nurses and reorganize the whole nursing system at present in force. The matron selected reached this Colony in February 1903, but up to now the scheme is not in working order.

3. A marked improvement has been effected in the efficiency of the attendance in the wards through the admittance of female students and the appointment of Junior Warders. The former intend to qualify as nurses, the latter are students of class B., of more than three months' standing, possessed of some knowledge in nursing. To these two classes of " probationers ", rations have been granted on the condition that they would have to perform active duty in the wards and be subjected to the same rules as apply to regular warders. This measure has now been in force for more than six months and has given excellent results. The female students and junior warders admitted as such have rendered valuable service to the Establishment and, in many instances, in relieving on the spur of the moment warders or sisters suddenly reporting sick, have been the means of getting us out of no small difficulty.

4. The repeated absences of servants have caused great inconvenience to the service. I think it necessary to point out the considerable difficulties experienced in the management of servants. Very few indeed have given satisfaction in the course of the year, while as many as ten have had to be dismissed for neglect of duty or a disciplinary offence of some sort. I attribute this state of things to the comparative low rate of pay drawn by this class of Hospital attendants, and to the absence of sufficiently stringent regulations concerning them. The modification of the existing rules is under consideration. The wages should be such as to secure the services of honest and efficient men and to render the situation worth keeping. On the other hand, a clearly specified scale of punishments should be laid down and strictly enforced.

The same remarks apply with equal force to the warders who, as I have pointed out in previous reports, are greatly underpaid and should be subjected to stricter rules than now exist.

5. Mention should be made in this report of the impossibilty in which the Medical Superintendent of this Hospital finds himself of giving as much attention as he would wish to scientific work, owing to the large amount of professional and administrative duties which devole upon him. The field of study is both extensive and attractive and it is to be regretted that, with the present arrangements, very little time is left for scientific observations.

6. The part taken by bateriological methods in clinical investigations has now become so important that I need hardly urge the necessity of maintaining the small laboratory attached to this Hospital, when the proposed Bacterioiogical Institution has been created. The advantages afforded to this Establishment by a clinical laboratory ready at hand and in the charge of a technical man of Mr Maya's competency, are too obvious to require any further remarks on my part. If Mr Maya could be relieved entirely of his duties as Pharmacist so as to devote more time to laboratory work, much could be done towards elucidating obscure points in the patholgy of the diseases prevalent in this Island.

F. A. ROUGET.
M. B., C. M. Edin.

16th March 1904.

Acting Medical Superintendent
of the Civll Hospital.

Lunatic Asylum.

Annual Medical Report for 1903 *on the Lunatic Asylum Beau Bassin.*

I have the honour to submit the following report on the health and sanitary condition of the Asylum for 1903.

On the 1st of January 1903, the patients in the Asylum could be distributed as follows :

	Europeans.	Creoles.	Indians.	Chinese.	Total.
Males ..	3	105	131	8	247
Females .	...	98	56	...	154
Total ...	3	203	187	8	401

The total number registered on our Books however amounted to 403 owing to the retention thereon of 2 patients escaped and who had not yet been brought back by the Police.

On December 31st. 1903 there were in the Asylum.

Males	...	240
Females	...	156
Total	...	396

distributed as follows :—

	Europeans.	Creoles.	Chinese.	Indians.	Total.
Males ...	4	100	129	7	240
Females ...	...	100	56	...	156
Total ...	4	200*	185	7	396

* One of these included a patient who had absconded and who was brought back during the year by the Police.

The number registered on our books was 399, including 3 male patients escaped and not yet recaptured.

The forms of insanity of these patients were as follows :

Idiocy	...	8
Mania	...	196
Melancholia	...	23
Dementia	...	122
Delusional Insanity	...	50
Total	...	399**

There was on 31.12.03 at the Barkly Asylum Lunatic Branch Wards the following number of harmless imbeciles, viz. :

Males	...	72
Females	...	30
Total	...	102

The Patients discharged on probation to the care of their relatives amounted on the above mentioned date, to the following number.

Males	..	26
Females	...	8
Total	...	34

The insane persons in the Colony may be tabulated as follows :

	In Lunatic Asylum and escaped.	At the Barkly Asylum Lun. Br. Wards.	On probation.	Total.
Males ..	243	72	26	341
Females ...	156	30	8	194
Total ...	399	102	34	535

The estimated population of the Colony on 1.1.04 as published by the Registrar General being 375,998, the proportion of total insane to population was 1.42 per 1000 or 1 in 704.

The proportion last year having been 1 in 624, there has been on the whole a slight reduction in the number of insane patients.

The Daily Average of patients in the Lunatic Asylum was in 1903 as follows.

Males	...	237.82
Females	...	152.19
Total	...	390.01

** Including 3 absconded.

The daily average at the Barkly Asylum Lunatic Branch Wards was—

Males ...	70
Females	28
Total	98

The admissions in 1903 were as follows.

	Europeans.	Creoles.	Indians.	Chinese.	Total.
Males ...	1	33	36	3	73
Females ...	...	21	13	...	34
Total ...	1	54	49	3	107

As compared with 1902, there were 45 fewer admissions.

63 persons (41 m & 22 f) were admitted for the first time into the Asylum 32 (24 m & 8 f) were readmissions from probation, and 9 (6 m & 3 f) readmissions after final discharge.

3 persons (2 m & 1 f) were admitted on Interim orders as alleged lunatics but found by the Commissioners in Lunacy not to be insane and discharged.

The greatest number of admissions were as usual for Mania and Melancholia :

Mania	68
Melancholia	18
Dementia	11
Iodicy	5
Delusional Insanity	2
Not insane	3
Total	107

The discharges in 1903 were as follows :

Males ...	60
Eemales ...	21
Total ...	107

They may be distributed as follows :

	Europeans.	Creoles.	Indians.	Chinese.	Total.
Males ...	...	27	31	2	60
Females ...	...	12	9	...	21
Total ...	...	39	40	2	81*

* Including 3 persons (2 m. & 1 f.) discharged not insane.

	Cured (and finally discharged).	Relieved (discharged on probation).	Not Improved (transferred to B. Asylum) L. B. Wards.	Total.
Males ...	7	32	18	57
Females ...	2	16	3	21
Total ...	9	48	21	78

The greatest number of discharges occurred among those who had been admitted for Mania.

Forms of Insanity.	No. of discharges.
Mania ...	62
Melancholia ...	7
Dementia ...	7
Idiocy ...	2
Total ...	78

The percentage of recoveries (cured and relieved) to the admissions was 53.27 % as compared with 58.55 % in 1902.

On the other hand 70 patients (51 m & 19 f) were finally discharged as cured from the probationers on their reappearing before the Central Board, whereas only 12 (9 m. & 3 f.) had been thus discharged by the Board in 1902.

They belonged to the following classes of the population, viz :

	Creoles.	Indians.	Chinese.	Total.
Males ...	11	7	1	19
Females ...	7	4	....	11
Total ...	18	11	1	30

The forms of mental disorder from which these patients died were as follows :

Mania (various forms)	17
Melancholia	5
Dementia	6
Idiocy	2
Total	30

The diseases which caused these deaths were as follows:

Albuminuria	1
Accidental drowning (during an epileptic fit) ...	1
Intermittent fever	2
Tuberculosis	3
Debility	7
Anœmia	1
Gangrene of Lung	1
Cellulitis	1
Epilepsy	3
Remittent fever	2
Dysentery	2
Diarrhœa	2
Retropharyngeal abscess	1
Intestinal obstruction	1
Influenza	1
Hemiplegia	1
Total	30

As in 1902 the greatest number of deaths was for delibity.

Ages at which deaths occurred:

10—20 ...	1
20—30 ...	3
30—40 ...	8
40—50 ...	10
50—60 ...	3
60—70 ...	3
70—80 ...	2
Total ...	30

The death-rate to daily average was in 1903 7.6% as compared with 6.5% in the previous year.

Number of deaths at the Barkly Asylum L. Branch Wards

	Creoles	Indians.	Total.
Males ..	1	7	8
Females ...	1	2	3
Total ...	2	9	11

1 male patient was reported to have died during the year from the patients out on probation.

The admissions into the Infirmaries of the Lunatic Asylum numbered 486 as compared with 461 in 1902.

The daily average of each was as follows, as compared with the last two years:

	1901	1902	1903
Male Infirmary ...	15.92	13.24	13.82
Female Infirmary ...	19.32	14.75	8.99
Both Infirmaries ...	35.24	28.04	22.81

There has been a slight increase over the daily average in the male infirmary but a considerable reduction in the female one.

Monthly admissions into the infirmaries :—

	Male Infirmary.	Female Infirmary.	Total.
January ...	22	17	39
February ...	25	13	38
March ...	32	28	60
April ...	35	17	52
May ...	32	21	53
June ...	20	8	28
July	31	15	46
August ...	19	15	34
September ...	22	18	40
October ...	27	8	35
November ...	21	13	34
December ...	17	10	27
Total ...	303	183	486

Monthly admissions for Intermittent fever, Dysentery, Diarrhea and Lung Affections in both Infirmaries :

	Jan.	Feb.	March	April	May	June	July	August	Sept.	October	Nov.	Dec.	Total.
Intermittent Fever ...	9	10	30	18	24	10	13	7	8	6	9	5	149
Dysentery ...	...	2	1	...	...	3	2	...	1	1	1	2	13
Diarrhœa ...	2	4	2	4	3	.	2	1	6	2	1	1	28
Phthisis ...	1	1	...	1	...	...	...	...	...	...	...	...	3
Bronchitis & Influenza etc...	1	...	3	...	3	2	1	...	2	1	1	...	14

From these tables it will be seen that the greatest number of admissions into the Infirmaries occurred during the months of April and May, and that most of them were for Intermittent Fever.

The greatest number of admissions for this disease was in the month of March.

As in 1902 it was observed that the number of admissions for fever did not fall to the ordinary rate till the month of August.

The prevalent type of malarial fever was the quotidian.

There were 4 cases of tertian and 2 of the remittent type.

There was a relatively greater number of admissions for malarial fever in 1903 than in the previous year. It is to be regretted that the sanitary works that had been commenced, i.e. the extension of the underground drainage of the Institution,

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collecting of the refuse water of the bath rooms into covered tanks, have not yet been carried out, and that the protection of the windows and other openings of the Infirmaries and wards by wire netting from the entrance therein of the anopheles mosquitœ, which had been contemplated, has been postponed.

The climatic influences prevalent in 1903 may have tended to the increase of malarial fever in that year, but it is highly desirable that the measures above referred to, which have been found so effective in the reduction of malarial fever in other countries, be carried out as soon as practicable in this Institution.

We had relatively fewer cases of dysentery in 1903 than in the year previous. Two of these patients died, one of the latter being in a debilitated state of health at the time he contracted the disease, and the other having had two or three attacks within a short time.

The treatment employed in this Institution for dysentery consists, of small doses two drachms to half an ounce of Infusion of Ipecacuanha root every 4 hours or oftener if necessary, on an empty stomach with milk diet or other light food.

When the complaint assumes a chronic form an infusion of a mixture of radix Krameria, cort. granati and Simaruba one ounce every 4 hours appears to give good results.

Although plague was prevalent in an epidemic form at Beau Bassin and in the vicinity of the Asylum in the village of Mon Roche, no cases occurred in the Institution during the year.

On Oct. 8th. a dead rat, affected with plague, was found in the Asylum store and the latter was thoroughly disinfected.

At the request of the Ag. Director, the warders, servants and patients who had entered the store were inoculated with Yersin's serum. A certain number of servants and members of their families (to the number of 64) who lived in the village of Mon Roche near contaminated houses were likewise inoculated. Not one of them subsequently developed symptoms of plague.

To pass to administrative matters, an important decision was arrived at during the year in reference to the staff of servants of the Asylum.

The Medical Superintendent having reported that the supervision of the patients was insufficient especially at night, owing to the staff being inadequate to the wants of the Institution, the same servants having to be employed for a certain number of hours at night after performing day duty, the matter was laid before the Central Board and on their recommendation the staff of servants was increased by five night guardians and four female servants.

Although we have now our full complement of servants we are still short of one or two warders owing to vacancies in their ranks which have existed for some time, and it is to be hoped that these posts will be filled up as soon as convenient by the appointment of competent persons.

In conclusion, I append brief notes of two interesting cases which occurred in the male Infirmary during the year.

9th. February, 1904.

J. I. PADDLE.

Medical Superintendent,

Lunatic Asylum.

Brief notes of 2 cases of mediastinal abscess.

1. François P. aged 22, African, admitted into the Asylum on 10.4.02 for Epileptic Mania was sent to the Male Infirmary on 16.8.03 suffering from Cellulitis on the left elbow and a plegmonous abscess on the upper part of the front of the sternum. Temp. 38 ° c. No swelling observed at root of neck, no dysphagia, no dyspnœa, lungs and pleura showed *nothing abnormal* on physical examination.

Cause of abscesses unknown, probably result of contusions from a fall during an epileptie fit. On opening the one in front of chest it was found to communicate with a deep abscess behind the manubrium of the sternum, the pus escaping in large quantity in the second interspace close to the right of the sternum. On each inspiration, air was sucked into the cavity. The abscess in the left arm was opened a day or two after. Both were dressed antiseptically. Patient made an excellent recovery and was discharged from the Infirmary on 3.10.03. The temperature became normal on 30.8.03.

2. Joseph B. aged 43, African, from Seychelles, admitted on 22.1.91 for Mania, was always kept in the cells as he was generally filthy and indolent and at times unmanageable.

He had constantly a silly and vacant expression and no information could at any time be obtained from him.

He suffered from an attack of Influenza in 1900, but entirely recovered from it.

On October 4th 1903 he was sent to the Male Infirmary as he had refused his food and was noticed to have a slight dry cough. His temperature was normal.

On the following day, patient began to expectorate some muco-purulent matter. His lungs, tonsils and throat were examined as far as could be done in such an unmanageable patient but no swelling or tenderness could be noted.

As patient swallowed liquid with some difficulty and some of it was rejected almost immediately, the case was at the time diagnosed as one of deep retropharyngeal abscess. The throat was accordingly syringed with a solution of potassium permanganate 1 o/oo and poultices applied to the front of the neck,. on 10.10 patient could not swallow at all and he had to be fed by nutrient enemata.

He died on Oct. 11 at 5.30 P.M. His temperature had continued normal to the day he died. He had continued to expectorate some pus from time to time.

An autopsy was made and a deep abscess was found in the posterior mediastinum 3 inches in length by 1½ in. in diameter, beginning a little above the level of the upper border of the sternum and extending downwards. It was situated partly between the trachea and the œsophagus, had compressed and pushed the latter to the right and had a communication with the back of the trachea by a small opening. There was no communication between the abscess and the œsophagus. No fish bone or other foreign substance was found therein. It was also behind in contact with the front of the vertebral column, the latter was in a normal condition. The lungs were congested hypostatically, but otherwise normal. No other marked abnormal condition existed in the other organs.

Remarks. - These two cases are interesting owing to their rarity and also from the point of view of their diagnosis and the impossibility of any effective treatment at an early stage with a view to their relief. It is quite probable that the abscess in the second case would have come forward behind the sternum and opened in front as in the first had it not burst into the trachea and produced serious symptoms of dysphagia and compression of the œsophagus.

J. I. PADDLE,

9.2.1904

Med : Superintendent,

Lunatic Asylum.

Extract from report of the Government Medical Officer in charge of Poudre d'Or Hospital.

……

L'opération la plus intéressante faite pendant cette année me semble être l'ouverture d'un abcès de la rate à cause de la rareté de cette affection.

C'est la première fois depuis 20 ans que je suis à la tête d'un service hospitalier que j'ai l'occasion d'observer cette maladie.

Malgré une incision très large, et un excellent drainage le malade n'a pas survécu, et à son autopsie nous avons eu l'occasion de vérifier le diagnostic qu'il avait été très aisé de poser de son vivant.

L'abcès né dans la pulpe splénique avait perforé la capsule de la rate et venait communiquer avec la peau de la paroi abdominale.

C'était un véritable abcès en bouton de chemise.

Le Paludisme a sévi très fortement en 1903, et cela est dû sans doute aux pluies régulières qui ont arrosé le Pays, at créé d'excellentes conditions pour la pullulation des moustiques fébrigènes.

Si cependant la morbidité a été considérable, la mortalité par contre n'a pas été énorme, et je crois que les statistiques de l'Etat Civil qui attribuent à la Malaria la plus grande part dans la mortalité du pays est radicalement fausse.

Il faut constater avec satisfaction que les gens du peuple commencent à comprendre la nécessité de la quinine pour combattre la fièvre, aussi s'adressent-ils plus volontiers aux Dispensaires pour en obtenir.

La Dysenterie comme toujours a sévi en même temps que la fièvre, mais elle n'a pas revêtu un caractère de malignité comme cela arrive dans certaines années.

Sur 34 malades soignés, 33 sont sortis guéris de l'hôpital, et nous n'avons eu à déplorer qu'une mortalité.

Ce malade attaient de Dysenterie chronique n'est venu demander un lit que pour mourir.

Le District cette année a été épargné par la Peste.

Quelques cas ont bien été constatés, importés de Port Louis, mais des foyers n'ont pas été constitués grâce aux rigoureuses précautions sanitaires prises à temps.

L'ankylostomiase, une affection presque inconnue dans le District, il y a quelques années, commence à faire d'inquiétants progrès.

Beaucoup de cas d'anémie sont attribuables à la présence de l'ankylostome, et quand les malades ne s'inquiètent pas à temps de leur affection, et négligent de recourir aux conseils du médecin, ils tombent dans un état de cachexie, au-dessus des ressources de l'art, et ne tardent pas à mourir.

Cette maladie, pour le moment, sévit seulement à la Plaine des Roches grâce aux puits peu profonds où les habitants puisent leur eau, quand ils ne la prennent pas entre les fissures des roches.

Comme ces gens s'exonèrent un peu partout, il est aisé de s'expliquer la facon dont les malades se contaminent.

Je n'ose guère insister sur les ravages de la tuberculose à Maurice. J'ai si souvent fait des rapports sur ce sujet que je ne pourrais que me répéter.

Il y a là un très grand danger pour toutes les classes d'une populatien appauvrie dans sa fortune et anémiée par le climat des Tropiques.

Tant que le tuberculeux ne sera pas exclu de la salle commune, je continuerai à dire bien haut avec mon maître Debore que l'hopital est un conservatoire de la Tuberculose

La syphilis s'étend de plus en plus dans la Colonie. Peu de jeunes gens échappent à la contamination, et comme aucune surveillance légale n'est exercée sur la prostitution, les ravages occasionnés par la maladie ne peuvent aller qu'en augmentant.

Une maladie que je crois nouvelle ici, vient de faire son apparition. Il s'agit d'une épidémie d'ulcères siégeant aux jambes et aux pieds de préférence.

Sur un nombre considerable de cas que j'ai eu l'occasion d'observer principalement sur les Propiétés sucrières dont je suis le médecin, il ne m'a été donné que deux fois d'observer ces ulcères ailleurs que sur les membres inférieurs.

Une fois l'ulcère était situé sur la fesse et une autre fois sur le devant de la poitrine.

Cette affection est indubitablement causée par un microbe qui ne me semble pas bien déterminé. Dans les nombreux examens bactériologiques que j'ai faits, il m'a semblé reconnaître au milieu de nombreux staphylocoques, un bacille long, grêle, semblable à celui que Vincent a signalé dans la pourriture d'Hopital, bacille offrant aussi quelque analogie avec celui de la Morve. Il appartient à un bactériologiste plus compétent que moi de caractériser ce microbe à la suite de cultures et d'inoculations.

Cet ulcère n'est pas auto-inoculable, et cepandant j'ai vu certains malades qui en avaient deux et trois en même temps.

Les hommes les plus vigoureux contractent la maladie aussi bien que le débiles et les cachectiques.

L'habitat du bacille semble être le sol, et une plaie sur une peau malpropre est la condition indispensable pour acquérir la maladie. Je dis qu'il faut que la peau soit sale et mal tenue, parceque jamais jusqu'ici, je n'ai vu une personne propre atteinte de cette affection.

Voici d'après ce que j'ai observé la marche de la maladie.

A la suite d'un traumatisme quelquefois très léger paraît une phlyctène qui au bout de 48 heures crève.

Sous la phlyctène qui est plus ou moins large, tout le tissu cellulaire est ophacélé, et exhale une odeur repoussante, en même temps que le membre s'enfle et devient douloureux.

Très rarement ces phénomènes s'accompagnent d'une fièvre légère.

Quand l'escharre tombe, apparaît alors une plaie rouge bourgeonnante à fond déprimé, à bords taillés à pic, mais non décollés. L'ulcération ne dépasse pas en général l'aponévrose superficielle, et marche vers la cicatrisation plus ou moins lentement.

Je n'ai pas observé une seule mortalité ni même un cas très grave.

Il me semble bien que c'est là l'ulcère phagédénique des Pays chauds, appelé encore uclère de Mozambique.

……

Extracts from Report of Government Medical Officer in charge of Flacq Hospital.

I beg to submit to you my report on the Flacq Public Hospital for the year 1903.

It will be seen from the accompanying return that the number of patients treated in the Flacq Public Hospital during the year 1903 amounted to 2015 of these 1243 were males and 772 females ; against 1542 in 1902,— 952 males and 590 females — and 1451 in 1901,—males 1008 and females 443.

The following table shows the number treated for the past four years, distinguishing the males from the females :—

Years.	Males.	Females.	Total.
1900	721	272	993
1901	1,008	443	1,451
1902	952	590	1,542
1903	1,243	772	2,015
Total ...	3,924	2,077	6,001

... ...

The following tables gives the monthly distribution of admissions for the last five years :—

Months.	1899	1900	1901	1902	1903
January ...	62	72	83	130	171
February ...	72	86	96	103	184
March ...	86	99	173	115	248
April ...	106	100	147	113	224
May ...	122	98	136	149	226
June ...	99	96	108	137	184
July ...	85	75	137	166	153
August ...	53	60	148	99	141
September ...	72	57	89	144	109
October ...	75	85	129	137	129
November ...	71	73	75	110	115
December ...	60	59	87	119	82
Total ...	963	960	1,408	1,522	1,966

It will be perceived from the foregoing table that the greatest number of admissions generally occurs during the months of April, May and June. This will appear the more evident were the total number of admissions grouped into quarters as in the following table :—

Years.	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.
1899	220	327	210	206
1900	257	294	192	217
1901	352	391	374	291
1902	348	399	409	366
1903	603	634	403	326
Total...	1,780	2,045	1,588	1,406

This would tend to show that the greatest prevalence of disease generally follows the heavy rainfalls and high temperatures of February and March. Heat and rain have therefore something to do with the morbidity of the Island.

The following table gives the monthly admissions for Fever and Dysentery during the past five years ;—

Years.	1899.		1900		1901.		1902.		1903.	
Months.	Fever.	Dysentery	Fever.	Dysentery	Fever.	Dysentery	Fever.	Dysentery	Fever.	Dysentery
January ..	17	4	7	7	12	1	13	1	36	5
February ...	19	3	26	2	37	3	27	1	65	4
March ...	28	4	29	4	80	7	26	5	118	12
April ...	39	7	37	10	83	19	37	7	73	16
May ...	29	10	32	10	64	6	56	6	72	10
June ...	23	6	32	7	27	8	32	7	61	6
July ...	15	4	12	6	24	4	25	8	30	6
August ...	7	1	7	2	32	6	14	6	13	5
September ...	8	2	9	2	14	...	16	14	12	3
October ..	11	1	13	3	5	4	16	8	11	4
November ...	10	1	9	3	7	2	17	5	9	2
December ...	14	2	10	1	13	3	12	4	14	....
Total ...	220	45	223	57	398	63	291	72	514	73

It will be observed that, with the exception of last year, the highest number of admissions for fever generally takes place in April and May. This exception as regards the year under review is probably due to the fact that in 1903 the rain began earlier than usual. With respect to Dysentery it cannot be said that it is generally more prevalent at any given time of the year. Its prevalence seems to depend upon the more or less purity of the drinking water.

Influenza was very much prevalent last year, 138 persons were admitted suffering from it, against 127 in 1902. The higest number of admissions for that complaint occurred during 2nd. quarter of the year.

Towards the latter part of last year an unusual large number of patients suffering from tropical sloughing Phagedena was admitted into hospital. This disease had then assumed an epidemic form and it now rages all through the Island ; especially among the Indian population on Sugar Estates. I need not enter here into all the particulars concerning that complaint as these will be made the subject of a special report to the Director of the Medical and Health Department. During 1903 twelve women were confined in the Establishment and labour in all the cases was natural and called for no interference.

There were last year, sixty-two admissions for Phthisis.

The following table gives the number of admissions for that complaint during the past seven years : —

YEARS.							Total.
1897	1898	1899	1900	1901	1902	1903	
31	34	26	34	36	59	62	282

Now if the number of cases occurring in each of these years be compared with the number of inmates admitted during the corresponding years we find that the percentage of Phthisis to the number of admissions has been for 1897,2. 8 % ; for 1898, 3o/o, for 1899, 2. 6o|o ; for 1900, 3. 4o|o ; for 1901, 2. 4o|o ; for 1902, 3. 8o|o ; and for 1903, 3. 1o|o.

Plague broke out last year in different parts of the District; but I am happy to say that we were fortunate enough to have it stamped out, in the different places where it showed itself, before many persons fell victims to it. One case of that disease was detected on an inmate of this Establishment. He died before he could be transferred to the Lazaret.

... ...

During last year 232 still Births were registered throughout the district and as the number of confinements amounted to 2219, it results that the percentage of births to the number of confinements was 10. 4 or nearly 1 in every 9.6 women confined.

Extracts from report of Government Medical Officer in charge of Mahebourg Hospital.

... ...

From the following statements it will be observed that the year has been a very bad one as regards sickness.

The first tabular statement mentions the total yearly admissions and deaths from 1899 up to 1903, and it will be seen that the total of admissions has been much above the figures of the four preceding years.

TABLE I.

Years	Admissions	Deaths
1899	1828	95
1900	1770	106
1901	1973	115
1902	1795	95
1903	2300	133

. . . .

In the tabular statement No. VII, is reported the number of admissions and deaths, during the four quarters of the years 1902 and 1903.

TABLE VII.

	Admissions		Deaths	
	1902	1903	1902	1903
First Quarter	398	708	26	28
Second ,,	536	750	19	44
Third ,,	505	5 3	27	40
Fourth ,,	356	329	23	21
Total	1795	2300	95	133

The following table gives a comparative statement of the usual and frequent diseases met with in the Colony at different periods of the year, it will be observed that Malaria prevailed in an unusual amount from February till June, but the five last months of the year were however rather good.

TABLE VIII.

Months.	Malaria.	Hypertrophy of spleen.	Anœmia.	Debility.	Dysentery.	Rheumatism.	Tuberculosis.	Influenza.	Respiratory Diseases.	Plague.
January ...	33	2	3	6	7	6	16	...	13	...
February ...	77	3	11	8	11	...	12	...	20	...
March ...	184	8	4	6	14	1	5	...	11	...
April ...	148	8	8	8	15	3	7	2	17	...
May ...	101	4	3	3	17	1	14	12	20	..
June ...	69	5	6	4	9	3	17	12	25	...
July ...	34	2	11	10	13	7	13	22	27	...
August ...	16	5	12	7	7	2	8	6	30	...
September ...		1	15	6	1	2	7	16	21	...
October ...	3	3	7	5	1	3	6	7	11	...
November ..	13	1	6	5	3	8	8	1	9	...
December ...	11	1	6	6	5	3	5	..	6	...
Total ..	698	43	92	74	103	39	118	78	210	...

Abscess of Liver :—We had six abscesses of the Liver under treatment in 1903 with one death, five were operated, one refused even exploration and was discharged.

The peculiar symptoms which the patients presented were that they hardly had any temperature that could be called Fever, and hardly any pains before or after operation and never complained.

The operations were generally performed under Cocaine.

Extracts from Report of Government Analyst.

I have the honour to submit the following Report on the work performed in the Laboratory under my charge in the year 1903

Forty-two investigations were undertaken for the Judicial Department and 57 for the Medical and Health and other Departments and for the Municipality.

The first series of investigations had reference to 156 articles or pieces of convictions and the latter to 97 different samples requiring a separate analysis or examination.

The total number of articles or samples examined thus amounted to 253 or an increase of 26 over the work done in 1902

This work in presence of the want of proper assistance, the limited number of apparatus at my disposal in the small laboratory at the Lunatic Asylum and the heavy calls on my time in connection with three long judicial enquiries, has been as much as could be managed, and I regret that about a dozen of investigations (not included in the above numbers) chiefly for the Medical and Health Department and involving careful and numerous quantitative determinations have been left to stand over for sheer want of time.

In addition to the work performed in the Laboratory my opinion as Government Analyst has been requested by two or three Departments on chemical questions of interest to Government.

Analyses for the Judicial Department

Medico-legal investigations were required by the following

Districts :	Number of investigations
Plaines Wilhems	8
Port Louis	7
Grand Port	7
Flacq	6
Pamplemousses	5
Savanne	3
Rivière du Rempart	3
Moka	2
Black River	1
	42

They had reference to the following cases:—

Poisoning	13 cases
Administering noxious substance	3 „
Murder, attempt at murder Wounds and blows causing death	9 „
Infanticide	2 „
Rape and attempt at rape	11 „
Sodomy	3 „
Counterfeit coins	1 „
	42

Distinct evidence of poisonous or noxious substances was found in six of the cases and they were due to the following:

Arsenious acid	2 cases.
Hydrocyanic acid	1 ,,
Strychnine	1 ,,
Aniline dye	1 ,,
Nail scrapings	1 ,,
	6

In the remaining cases, no evidence of poison or noxious substances could be obtained. Most of them were investigations conducted at the request of Government Medical officers who in presence of insufficient pathological evidence as to the cause of death occuring after a short illness, had asked the District Magistrates to have the organs of the deceased persons analysed with the object of ascertaining whether they may not have died from poisoning.

... ...

The two cases of arsenical poisoning are of some interest.

They occurred one at .... and the other at .... In the former case several members of a family were suddenly taken ill with vomiting and purging soon after partaking of some stewed peas at their dinner. The cook who had tasted the peas was also similarly affected. Marked presence of arsenious acid was found in the peas and in the vomited matters. The case has been inquired into by the Police but is still wrapped up in mystery, the person who administered the poison not having yet been discovered.

In the second case, several persons were similarly affected after drinking some coffee with milk. A heavy proportion of arsenious acid was found in the milk and in vomited matters. A piece of bright copper foil warmed with a few drops of the milk and some hydrochloric acid almost immediately became coated with a heavy black deposit of arsenic.

... ...

In presence of the comparative frequency of these cases of poisoning by arsenic of late (a similar case was reported by me last year), the poison being procured no doubt from persons supplied with the same for destroying rats, it would be advisable to issue a warning against the danger of entrusting such a poison to any but the most trustworthy persons.

The case of poisoning by hydrocyanic acid occurred at Grand Port in an Indian who died after partaking of some wild beans. Hydrocyanic acid was found in the stomach together with a certain quantity of these beans in a semi-digested state.

As it was found that on warming some of these beans with dilute hydrochloric acid, hydrocyanic acid was produced I reported that the man may have been poisoned by this volatile acid evolved by the action of the gastric juice on the beans during the act of digestion.

The aniline dye mentioned above was administered by an Indian woman to her paramour at...... She had purchased it from a Chinaman and had mixed it up with some pickles. The man noticing a bitter taste in his food immediately suspected some attempt at poisoning and reported the matter to the Police. On analysis I found the yellow substance to consist of a colouring matter answering to the test of chrysotoluidine. A small quantity (one grain) administered to a young sparrow in water caused it to reject the food it had just been eating and it brought on afterwards some purging, the excrements being of a deep yellow colour. The bird, however, did not die from the effects of its administration. Although I could not assert that the same result would be produced on human beings, I reported that, judging by analogy, I was in a position to affirm that this substance had some irritating properties on the alimentary canal and that, although not poisonous, it could be considered as noxious.

The woman was subsequently prosecuted before a Bench of of Magistrates and charged with the administration of a noxious substance.

The case of strychnine poisoning was in an Indian who probably committed suicide. Well marked indications of the poison were found in the stomach and its contents.

In the 11 cases of Rape and attempt at Rape spermatozoa were only found on the clothing in 2 cases, blood in 5 cases and nothing of importance in the rest.

In one of the cases of Infanticide a small quantity of the milk of the breast of the mother was sent to me for the purpose of ascertaining whether it was the milk of a woman who had recently been delivered. There was not difficulty in doing so as it was found under the miscroscope to contain several colostrum masses and cells indicating the early stages of the formation of milk in the breast.

Analyses for the Medical and Health Department.

41 Analyses were performed for the Medical and Health Department ; and 16 for other Departments and the Municipality.

The former included 71 samples and the latter 26, making a total of 97 separate articles examined.

These Analyses were distributed as follows, and were conducted at the request of the following Officers or Institutions :—

	No of Analyses	No of Samples
Acting Director Medical & Health Dept.	5	5
Sanitary Warden and Assistant Sanitary Warden	5	11
Acting Additional Sanitary Warden, Plaines Wilhems	11	18
Acting Add. Sanitary Warden Curepipe	6	7
Barkly Asylum	11	22
Lunatic Asylum	3	8
	41	71
Receiver General's Department	1	5
Prison Department	2	3
Municipality	13	18
	16	26

The articles analysed or examined were the following :

	Samples.
Milk	35
Water	10
Lard	4
Arrowroot	3
Oatmeal	2
Pig's lung	1
Slides with plague preparations	10
Sputa for tubercle bacilli etc	6
Tumour (epithelioma)	1
Meat (for contamination with zinc) ...	1
Substance for denaturating alcohol ...	5
Mortar and plate (alleged to contain copperas)	2
Urine (quantitative analysis of sugar, albumen, urea, etc) ...	11
Verification of lactometers	3
thermometers ...	3
	97

Milk analyses, as shown above, headed the list. Sixteen of the samples were sent up by the Municipality and the rest by the Sanitary Wardens. One sample came from the Prison Department.

The 35 samples of milk examined were reported upon as follows :

	samples
Watered	16
Skimmed and watered	2
Skimmed	6
Poor in cream (probably skimmed) ...	1
Colostrum milk	3
Not adulterated	7
	35

The watering ranged from 10 % to 51 and 56 o/o in two cases. The average watering, however, was about 20 o/o.

No cases of addition of canesugar to milk after adulteration with water were sent up for analysis in 1903. As stated in my previous report this practice of "sugaring" which was very prevalent among the milk subcontractors has disappeared since the price of 12 c is paid per litre. Although the milk is daily tasted on receipt with a view to the detection of this adulteration not a single instance of the same was observed at the Lunatic Asylum in 1903. In fact, we have on the whole had very little trouble since then, as milk of very fair quality has been supplied.

With reference to the question of skimming, it is desirable that some amendment be effected in the actual Sanitary Regulations if convictions are to be secured in contraventions of this kind.

In July 1903 a sample of Milk sent to me by the Sanitary Warden was found to have the following composition :

Total solids	11. 59%
Fat	1. 88 „
Non fatty solids	9. 71 „
Ash	67
Specific gravity	10 34

It was reported as skimmed and a Sanitary Inspector was requested by the Medical and Health Department to prosecute the milk seller in whose possession the sample was found. The man pleaded not guilty on the ground that he had sold the milk in exactly the same condition as it was produced by his cow.

On being asked by the District Magistrate my reasons for considering this milk as skimmed I stated that, in the absence of a sample of milk from the cow of the man for comparison, the only method available for the purpose was to compare the results of my analysis with a standard representing the minimum of fat found in a milk produced in ordinary circumstances. As the result of my experience of analyses of genuine samples in this Colony, I had adopted 2.5 o[o as a fair minimum for reporting on cases of skimming and the proportion of butter found in the sample in question was manifestly below this standard. A similar method based on the percentage of non-fatty solids was adopted for reporting on watering, 8.5 o[o being the minimum in that case. The standards adopted by the Society of Public Analysts was 3 o[o for fat and 8. 5 o[o for non-fatty solids. That of the Inland Revenue Laboratory, the referee under the sale of Food and Drugs Act was 2.75 o[o for fat and 8.5 o[o for non-fatty solids. These standards were recognized in England by Magistrates as the basis for condemning or acquitting in all milk contraventions brought before them.

I was further asked whether it was possible for a cow to produce milk containing only 1. 88 o[o of fat as mentioned in my analysis and I stated that this was possible if the animal had been improperly fed or suffering from disease. In fact in tubercular cows, especially when the udder is affected, a lower percentage of fat in the milk has been recorded.

The case was dismissed on the ground that the charge of skimming had not been proved.

Now, as it is very important in the interest of the community that milk of fair quality be supplied in exchange for good money it is advisable that in the Sanitary Regulations above referred to the terms " cows'milk " be defined as the "normal secretion of the udder of a *healthy* cow " and that any sample found containing less than 8.5 % of non fatty solids and 2.5 % of fat be treated as watered or skimmed.

Cow's milk being the only nourishment of a certain number of infants and sick persons, it is not right that milk sellers should be allowed to tender openly as genuine a product which is equivalent to a skimmed milk, an article of diet manifestly incomplete for such infants and patients, and for this reason most prejudicial to their health.

If milk sellers should be prosecuted for skimming, I submit that they should on the other hand be commended when selling milk containing an *excess* of cream. Such a " rara avis " was found at Beau Bassin in an Indian woman of the name of Parbatee. A sample of the milk she was actually hawking on 24th June last at 12.15 p.m. was taken by a Sanitary Inspector and as it was found to have a specific gravity of 1022 at the temperature of 80 ° .F she was charged before the Magistrate with watering. On her pleading "not guilty" a sample was sent for analysis and I reported thereon as follows.

Total solids	16.38 %
Fat	7.27 ,,
Non-fatty solids	9.01 ,,
Lactose	3.07 ,,
Ash	.63 ,,
Casein and albumen	5.31 ,,

a layer of 26 % by volume of cream formed after 24 hours. The charge was of course withdrawn.

This is the case of the richest milk in cream that I have had yet to analyse. The woman affirmed that she had added no cream to her milk and that she had sold it just as it came from her cow. The normal percentage of non-fatty solids also shows that it was not a milk concentrated by boiling.

This case confirms what I stated in my Report for 1902 that the use of the lactometer alone in cases of milk contraventions could not be depended upon and that it was limited to the preliminary examination of such samples which an analysis alone could satisfactorily enable one to decide upon.

A further difficultly in this connection occurred in two or three cases of contraventions from the erroneous graduation of some of the densimeters in the hands of Sanitary Inspectors. I had occasion to examine two of them and one from a Municipal Inspector, and reported an error of 1o. to 1.5o. as compared with the density of milk taken by the specific gravity bottle,

The question of the supply of condensed sterilized milk for Government Institutions again came forward last year, as two firms had proposed to introduce some good brands for the purpose. For the reasons which I stated in my former report viz the possibility of inducing infantile scurvy or Barlow's disease by the continued use of such milks, I reported that it would be unadvisable to substitute this milk to the fresh milk which was being supplied by the contractors.

I had occasion to report on a sample of arrowroot supplied to the Lunatic Asylum. As it consisted mostly of manihot starch and as the maranta arrowroot produced a lighter jelly and in my experience was better tolerated by patients with delicate stomachs than the other kinds of starch. I recommended that the former should henceforth be supplied. A sample obtained from a chemist under the denomination of arrowroot was found to consist of a mixture of maranta and manihot starch.

10 samples of water were examined, they came from rivers polluted with molasses from sugar factories.

Ten Slides were examined for plague bacilli in blood by Ross's method. Yersin's bacillus was found in 3 of the cases.

A very rare and interesting sample of urine was sent for analysis by the Acting Director. It came from a gentlemen aged about 40, of slender build who had suddenly passed urine of deep blue colour. This had continued for two or three days, after which it became green and finally resumed its normal colour. He had been suffering from dyspepsia subsequent to some domestic trouble and grief. No Methylene blue or any other colouring matter had been previously taken by him.

The sample, when kept, gave rise to a heavy sediment of Ammonio-Magnesian phosphates in the midst of which there was a deep blue granular precipitate.

When kept corked the blue gradually disappeared but returned on exposure to the air. An analysis of this urine showed that the colour was due to indigo blue or indigotin.

A similar case was reported by Good in the Lancet of June 1st 1901, p 1535 and explained by him as due to duodenal indigestion. In this part of the intestine proteids are transformed by trypsin into peptones, the latter into leucin and tyrosin and furthur into indol, phenol and other bodies. Indol by the putrefactive action of the bacillus coli in the intestine forms indican and the latter by oxidation becomes indigo blue.

The urine in many cases of indicanuria, according to Osler and Fagge, turns blue on exposure to the air, but in Good's case and in this one, the oxidation of the indican had taken place before the urine was voided. This condition is stated by the Editor of the Lancet, in the same number p 1561 to be a very rare phenomenon which has however been noted in cholera and typhus fever.

Ten Samples of urine were examined quantitatively for sugar albumen and urea.

For the determination of the last mentioned constituent, I have devised a simple form of nitrometer or ureameter which I describe in an appendix to this Report, as it may be of use to Government Medical officers in charge of Hospitals who may themselves by means of it easily make quantitative determinations of urea in certain cases where such determinations are important.

Its advantages are that it can be made by any one with ordinary and unexpensive apparatus. The originality, if it is one, consists is the introduction of two Erdmann's floats into the burettes for measuring with greater precision the length of the gas column.

The instrument may be made entirely of glass, as shown in the second drawing, and acquire thereby a greater scientific value, but this would detract from its simplicity and make it lose its character of cheapness and facility of construction from ordinary materials.

The questions submitted for report by other Departments were the following :—

(1) Customs Dept.— Should the substance introduced by a merchant for denaturating alcohol be treated as " spirits " plain or compounded and charged duty upon as alcohol, or be considered as a chemical at the ad valorem rate ?

I reported that as the word " spirits" referred in this case only to " ethylic " alcohol or to a compound containing it, and as this substance, consisting of a mixture of methyl alcohol and pyridine bases, was free from ethylic alcohol, it did not in my opinion come under the definition of the ordinance. The matter was settled accordingly as reported upon.

(2) Storekeeper General's Dept—Could not denaturated alcohol be used by the Police for preserving organs in autopsies required by the Judicial Department.

I stated that as it contained pyridine bases which had reactions similar to those of some of the alkaloids it would unnecessarily complicate matters to have this constituent present in the alcohol in a case of poisoning by an alkaloid. I recommended that the purest spirits of wine should be supplied.

(3) Receiver General's Dept. Would it be advisable to keep rum in iron drums ?

The report I sent was that it would be undesirable, as the rum might acquire a mentallic taste from the drum. It would further, by its slight acidity, gradually act upon the iron and become of a reddish brown colour from the presence of acetate of iron , and if previously kept in wooden casks the tannin derived from the wood would form ink by its action on the metal.

In view of the proposed creation of a Government Analytical Laboratory, I am not aware whether the one under my charge will be merged into the other. Should they however be kept distinct I submit that it is very desirable, as I stated in my former Report, that the incomplete Laboratory of the Government Analyst be properly fitted up and that he should be given some assistance, otherwise the delays which have often taken place in reporting on samples will be unavoidable.

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Appendix.

New Nitrometer or ureameter employed in the Government Analyst's Laboratory.

This instrument may be made with two ordinary Mohr's burettes of 50 cc, divided into tenths, placed in close contact with each other as in fig I by means of indiarubber rings passed round them at (a) and (b) beyond the graduations and also round the vertical iron or wooden rod of a stand in order to maintain them in a firm position.

At their lower extremities they are placed into communication by means of rubber tubing and a Y shaped glass tube to the lower limb of which another small glass tube with a tapering extremity at the bottom (in order to permit of small drops escaping) is joined by a short length of rubber tubing compressed by a Mohr's pinchcock.

At the upper end of A a perforated rubber stopper is firmly inserted through which one limb of a T glass tube passes, the upper limb (c) of which is closed by another pinchcock on a piece of rubber tubing.

The third limb is connected by another tubing with a glass tube passed through a rubber stopper closing the generating bottle which is placed on a shelf or ring connected with the iron stand. In this bottle is placed a small test tube containing some of the urine to be analysed.

Before inserting the stopper in burette A, distilled water is poured in and the floats introduced. These should move freely in the burettes without being either too loose or too tight. Should the marks across the floats not correspond when at rest the lighter one (placed in B) should be weighted at the top with some silver wire or lead foil till the transverse lines are in one and the same horizontal line.

Everything being now ready, 25 cc of a 40 % solution of caustic soda are mixed with 2. 5 cc of bromine and poured into the generating bottle C, 5 cc of the urine carefully pipetted are placed in the test tube (d) and the stopper of the bottle firmly pushed in.

Pinckcock (c) is opened and some water poured into the open end of burette B till both floats have their marks above the 0 ° of the scale of A.

While pinchcock (c) is pressed open, (g) is now carefully opened and water allowed to escape into some lipped receptacle till the marks on the floats are again in the same horizontal line and exactly opposite the 0 ° of burette A,

Bottle C is now slightly tilted and some of the urine in the test tube allowed to mix with the hypobromite solution. As the Nitrogen gas is evolved the float (e) in burette A is seen to descend and the one in B to rise.

Pinchcock (g) is now pressed open and water allowed to run out till the floats are again close to one another. More urine is tilted into the hypobromite solution and the same process continued till the floats no longer move up or down. After a quarter of an hour or longer if necessary, when the gas has taken the temperature of the room, the floats are again adjusted till their marks are in the same line.

This is done by running out some water with care if the float in B has the higher position, otherwise some is poured into burette B and the excess again allowed to escape drop by drop.

APPENDIX

Fig. 1

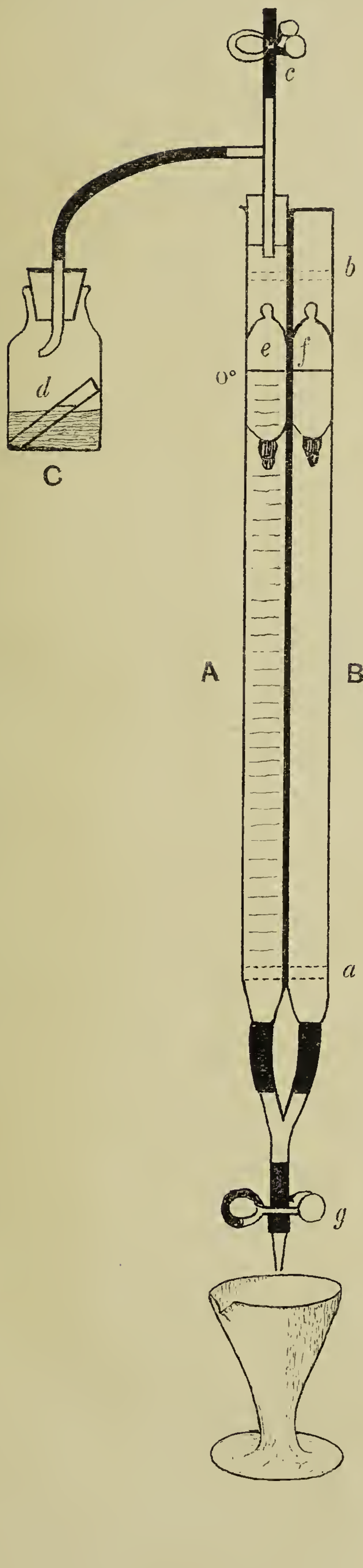
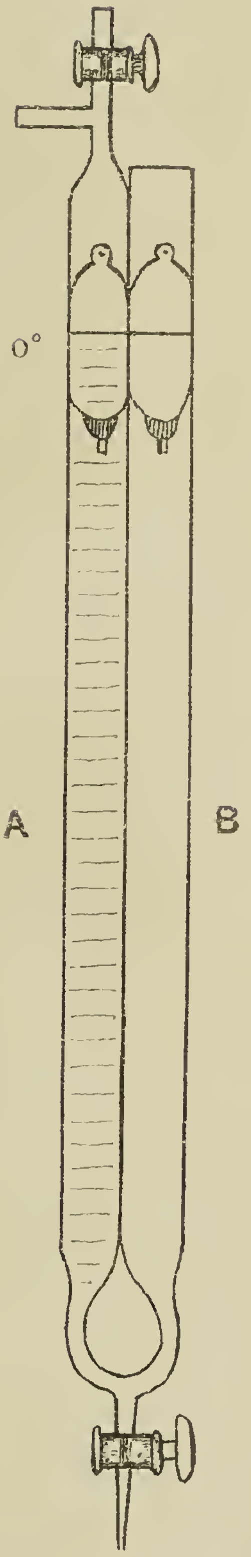


Fig. 2



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Each cc. of gas in burette A after correction for temperature, pressure and moisture, is multiplied by the factor .059 and gives the percentage of urea in the sample.

The apparatus may be made in one piece by an instrument maker as shown in fig 2 and provided with glass taps instead of pinchcocks. The float in burette A will of course have to be inserted previous to the blowing of the upper portion.

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Government Analyst,

11th April 1904.